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An Index to The Railway Gazette Diesel Railway Traction Supplement for 1944 has been prepared and copies are available on application to the Publisher

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list, and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. The Railway Gazette possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays 9.30 a.m. till 4.45 p.m.

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Argentine Railway Earnings

WITH the exception of the Buenos Ayres Great Southern and the Buenos Ayres Western, the reports of the British-owned Argentine railways have been issued. The figures now available for the Buenos Ayres & Pacific Railway, the Central Argentine Railway, the Entre Rios Railways, and the Argentine Great Western and the Argentine North Eastern Railways, are for the year to June 30. Apart from the Argentine Great Western, which depends for its revenue on working agreement and other receipts from the Buenos Ayres & Pacific, the results of these companies are tabulated below:—

Company	Receipts. 1943	Receipts. 1944	Expenses 1943	Expenses 1944
	£	£	£	£
Argentine N.E. ...	973,073	1,142,822	658,518	703,915
B.A. Pacific	7,521,179	8,263,519	5,940,411	6,884,973
Central Argentine ...	10,305,329	12,159,426	8,619,350	9,809,077
Entre Rios	1,359,786	1,517,423	1,052,624	1,198,890

It will be seen that the companies have achieved increases in receipts which have been diminished, or in the case of B.A. Pacific eliminated, by higher operating costs. The final result has been that net revenue on the Argentine North Eastern rose from £334,555 to £437,907; on the Central Argentine from £1,685,979 to £2,350,349; and on the Entre Rios from £307,162 to £318,533. In the case of the B.A. Pacific there was a decline in net revenue from £1,580,768 to £1,378,546.

Exchange Losses and Differences

When attention is directed to exchange losses and differences a less satisfactory position is shown. For the Argentine North Eastern exchange losses and these were £132,704, compared with £100,609; for the Buenos Ayres & Pacific £647,535, compared with £702,950, and the Central Argentine £846,895, against £623,403, and the Entre Rios £93,267, compared with £93,671. The outcome is that after debenture interest debited, but not paid, the Buenos Ayres & Pacific finished with a debit on the year's working of £1,036,968, which brings the total debit of that company to £11,475,244. Similarly, the Central Argentine, although it has converted a debit of £154,622 on its previous account into a credit of £287,604, carries forward in its balance sheet an accumulated debit of £1,532,768. The Argentine North Eastern reduced its debit by £88,949 to £392,379, and that of the Entre Rios was increased by £26,168, to £856,027. Notwithstanding better revenues obtained since the outbreak of war, the revenue accounts of all the four companies continue in debit. Despite the rather better net revenues for the last financial year, preference dividends are still in arrear, and debentures still subject to moratoria. It is small wonder, therefore, that the financial plight of the railways is at least becoming apparent to the Argentine authorities.

Larger Boards for Argentine Railways

It has been announced that two important matters are to come before the annual general meetings of the Buenos Ayres Great Southern Railway Company and the Buenos Ayres Western Railway Company, which are to be held in London on December 19. The first of these is a resolution giving the directors of each company power to increase the board of directors from seven to twelve members. The second is an intimation that the Chairman, Sir Montague Eddy, will make a statement on his recent visit to Buenos Aires. Conjecture as to the reason for increasing the number of directors has been along two main lines; one is that an arrangement has been reached for the incorporation of Argentine nationals on the boards of the companies, and the other that an even closer identity of interest of all the British-owned lines operating in Argentina may be made effective. In our November 10 issue we dealt with the agreement reached between Sir Montague Eddy and the Argentine Government, and it will be recalled that he was reported as having said: "We asked for permission to fuse the administrations and working of the companies, considering it to be in the interests of the country—the more cheaply the railways can be run the better for everyone here." He added that the subject was one which remained open for further study and discussions.

British Transport after the War

Cabled messages from Cape Town report Major-General G. S. Szlumper, Director-General of Supply Services at the British Ministry of Supply, as having said that after the war all transport in Great Britain should be run as a sort of public corporation with pooled funds, and that it should have neither exclusive Government control nor be run by private companies on competitive lines. Probably because General Szlumper was formerly General Manager of the Southern Railway Company, more signi-

ficance has been attached to his statement than otherwise would have been the case. At present he is visiting South Africa at the request of the Union Government, to advise on some of the railway problems in South Africa. Before General Szlumper left England he had made somewhat similar suggestions in public addresses in this country, but we know of no reason to suppose that they enjoy official or authoritative backing. It is far more probable that they represent the expression of General Szlumper's individual views, which no doubt he has expressed with characteristic forcefulness. The relevant quotation from General Szlumper's statement is given in our Scrap Heap on page 595.

Railway Canteens and the Merchant Navy

The catering trade has undertaken an appeal on behalf of the Merchant Navy Comforts Service and has asked the Main-Line Railway Canteens Association to undertake an appeal in so far as the canteens under its control are concerned. The association has received the support of the Railways Staff Conference, and has sought the assistance of all committee-controlled canteens on the four main-line railways to assist on behalf of so worthy a cause. The period of the appeal is throughout the month of December and supplies of posters, collecting box labels, ship collecting cards, etc., are available from Mr. W. J. Coaley, the Secretary of the Main-Line Railway Canteens Association, L.M.S.R. Goods Dept., Eldon Street, London, E.C.2. The Merchant Navy Comforts Service requires £250,000 to rebuild and re-equip the Sailors' Home and Red Ensign Club in Dock Street, E.1, and £100,000 to build a girls' school and four lesser houses at the Royal Merchant Navy School at Bearwood. This is in addition to its present work, which includes over 4,000,000 gifts already sent to sea. The Service is responsible for collecting and distributing 78 per cent. of the total war comforts issued to the seamen of the Merchant Navy.

Institution of Locomotive Engineers

The annual luncheon of the Institution of Locomotive Engineers, which was held in London last Friday, constituted a record. There were present 285 persons, of which no fewer than 153 were guests, and the President, Mr. W. S. Graff-Baker, said that the health of the Institution never had been better than at the present time. It had the largest membership and the biggest bank balance it had ever had. Tributes were paid to Mr. O. V. Bulleid, Chief Mechanical Engineer of the Southern Railway, who had had the office of President for five consecutive war years, despite the many and onerous calls made on his labours arising from the emergency, and who has rendered great service to the Institution. A report of the proceedings at the luncheon appears on page 608. Colonel Eric Gore-Browne urged members of the Institution to devote time and research to the problems of the economical running of locomotives, a matter which is becoming of increasing importance in view of the steadily increasing cost of coal, a factor which enters into the operating expenditure of both steam and electric locomotives. Mr. T. E. Thomas, General Manager, L.P.T.B., who replied to the toast of the guests, paid a tribute to the designers and manufacturers of rolling stock, which had stood up to five years of intensive use.

Mechanical Engineering Problems of the L.P.T.B.

A large audience gathered in the meeting hall of the Institution of Mechanical Engineers on Friday, December 1, to hear Mr. W. S. Graff-Baker, M.I.Mech.E., address an informal meeting on "Mechanical Engineering Problems of London Transport." It seems a pity that an informal meeting was chosen for this event, as in consequence no advance copies of the lecture were available; however, as Mr. Graff-Baker explained, it was the very informality which enabled him to put together a few notes to guide him in what was virtually an *extempore* address. If a "full-dress" paper for discussion had been required, he might have been obliged, in view of the onerous task of preparing the MS., to decline the invitation. The speaker delighted his audience with the skill and apparent ease with which he distilled the experience of some thirty-five years' service with the Board and its predecessors, into a short lecture, illustrated with lantern slides. After showing how it had been possible to determine, by mathematical formula, the capacity of a line, expressed in seconds' interval between trains, these line-capacity equations were also expressed in curves, and the effect of changing such factors as maximum speed, and length of station stop, was shown. From these theoretical considerations, the lecturer dealt with problems of acceleration and braking, both in tube tunnels and open sections, and then passed to the design of cars, in dealing with which he covered types of rolling stock from the early years of the present century on the different parent companies. He also gave a wealth of information on the design of rolling stock, and introduced some new conceptions which should prove of the highest value.

Track Costs 160 Years Ago

The first annual general meeting of the Midland branch of the Newcomen Society was held in Birmingham on Wednesday, December 13. This was followed by an ordinary general meeting of the Society at which two papers were presented. One of these, that entitled "A Durham Collieries' Stocktaking of 1784," by Captain E. W. Swan, O.B.E., although concerned primarily with a valuation of the stock at Stanley, Shieldrow, and Lanchester Common collieries, belonging to Sir Henry George Liddell & Partners, also had its railway interest. This valuation, which appears to have been a normal stocktaking, was recorded in an exercise book 8 in. × 6½ in. which recently came into the possession of the writer of the paper. Sir Henry Liddell was the head of the important colliery group which employed George Stephenson, and gave him the opportunity of building his early locomotives. Many years before his time, however, the group had been prominent in the use of wooden railways, and the valuation which formed the subject of Captain Swan's paper included some interesting items of "permanent way" costs 160 years ago. Thus, 649 yd. of oak rails are shown at 7d. a yd.; 3,000 yd. of beach (*sic*) rails 5d. a yd.; and 1,762 oak sleepers at 8d. each. Another item in the "stock for the waggon ways" was 7 ballast wagons valued at £49. Captain Swan estimated that equivalent values at the present day would be about five times those shown in this list.

Attracting American Youth to the Railways

The assiduity with which American railways are seeking both to attract and to train for their service the best type of American youth is well illustrated by details recently made public of the methods of the Illinois Central System. On the establishment, early in 1943, of a school of instruction centrally located at Carbondale, Illinois, divisional superintendents began a round of visits to the headmasters of schools in their territory, in order to lay the railway plans before them, and substantial educational backing was received in this way. Newspaper advertisements and circular letters were used; and young men already in the railway service were encouraged to ask their friends to "join up." Names and addresses of suitable boys of 16 years of age were obtained to enable representatives of the railway to call on parents and put before them the claims of railway service. A hotel near the school was taken over in part to provide accommodation for the trainees, whose living expenses are paid during the training period. Schools are now established at Memphis and Chicago as well as at Carbondale, and the courses include the railway rules, safety, and advanced training in telegraphy and train dispatching. On completion of the school course, the young men are passed to trainmasters, and assigned to jobs as shunters, firemen, or trainmen, receiving a lower rate of wages while still in training, and full wages as soon as they are assigned to regular service. Student dispatchers are selected from the best of the trainees, and some have shown such promise that they bid fair to become chief dispatchers.

Plywood in Wagon Construction

In the search for new and readily available materials for rolling stock construction, rendered more urgent by steel shortage, American railways are making increasing use of plywood. At the present time the Great Northern Railway is building 1,000 bogie box wagons in which plywood is used for outside sheathing, side and end lining, and ceiling insulation. In Great Britain the use of plywood in rolling stock building is not unknown; the first of the tourist trains of bucket-seat cars built for the L.N.E.R. in 1933 had plywood bodies. This more or less experimental construction, however, was confined to passenger stock; the American application to freight stock is the more remarkable in that these box wagons are intended for the carriage of lumber, newsprint, and other heavy commodities which call for corresponding strength in the wagon body. Each of the wagons is 40 ft. 6 in. long and 9 ft. 2 in. wide; with an internal capacity of 3,727 cu. ft. and a tare of 20 tons 8 cwt.; the ratio of tare to cubic capacity is 12·26 lb. per cu. ft. The nominal load capacity is 45 tons, but the wagons may be loaded to a limit of 55 tons. The plywood used is Douglas fir, five-ply, ⅝ in. thick, except the ceiling insulation, which is three-ply, ¼ in. thick. An advantage of plywood is that minor damage can be readily repaired by the use of small inserted patches. As a precaution against slow decay, the panels are dipped in a sealing and surface hardening

medium, composed of a penetrating oil mixed with suitable gums, which also serves as a good foundation for subsequent painting.

Co-Operative Manufacturing

A remarkable example of the building-up of a co-ordinated industrial organisation of high efficiency out of five undertakings, not previously associated in business, and with no common link, was told by Lord Ashfield last week when he gave some accounts of the activities of the group known as London Aircraft Production. He said that the management and staff of the L.A.P. Group had done a splendid job which deserved wide publicity, as, in his opinion, their efforts constituted a major contribution on the industrial front to the winning of the war. The group had its origin in 1940 when Sir Frederick Handley Page suggested that existing factories connected with road transport might be used in connection with the then-proposed production of the four-engined Halifax bomber. Some details of how this group came into being, and what it achieved, are given this week on page 605. The component factories of the Group include the Chiswick Bus & Coach Overhaul Factory of London Transport, and a building intended for housing and maintaining underground trains which was in course of construction at the beginning of the war. In all, there are eight factories comprised in the Group, four of which are under the direct management of London Transport. Certain of the Group factories have not escaped the effects of aerial bombardment; there has been loss of life, and many workers have been required to do their work in conditions which at times have been far from comfortable. Nevertheless, the L.A.P. Group has made good, and has earned for itself a niche in the history of the aircraft industry of this country.

Leopoldina Railway Company

AN increase of £311,354 or 19·32 per cent. in gross receipts is shown in the report for the year 1943, but working expenses advanced by £296,311 or 20·25 per cent. To the net receipts of £163,467 is added a credit of £6,327 for interest, discount, etc., but £23,290 has to be deducted for premium on conversion of debentures and transfer to reserve for redemption of debenture stock, leaving £146,504 available to meet the liabilities of £380,107 postponed under the scheme of arrangement, and thus resulting in a loss for the year of £233,603. The number of passengers carried increased by 4·80 per cent., and the receipts therefrom by 21·50 per cent. Parcels and baggage receipts (£179,942) showed an increase of £24,014 or 15·40 per cent., notwithstanding a decrease of 4·62 per cent. in tonnage. While the tonnage of goods traffic declined by 8·40 per cent., the receipts advanced by 21·92 per cent. The decrease in goods traffic handled is more than accounted for by a falling off in the carriage of sugar and sugar cane—534,000 tons against 782,000 tons. Coffee carryings, however, at 155,000 tons, improved from the exceptionally low level of 1942 by nearly 100 per cent. Goods receipts in general benefited from a full year's application of the increased rates effective in March and October, 1942, as well as from the further increase of 25 per cent. authorised as from the middle of October, 1943. Some operating figures follow:—

	1942	1943
Miles open	1,918	1,918
Passengers	30,632,647	32,102,353
Goods and livestock, tons	2,120,295	1,942,208
Operating ratio, per cent.	90·79	91·50
	£	£
Passenger receipts	430,796	523,431
Goods and livestock receipts	992,069	1,209,559
Gross receipts	1,611,362	1,922,716
Working expenses	1,462,938	1,759,249
Net receipts	148,424	163,467

A rise of £142,000, or 36 per cent., took place in the fuel bill. Though the statistics of work performed showed little variation, consumption rose by 12 per cent. Among the reasons for this were the varying types of fuel and irregularity in their supply, the deterioration and shortage of locomotive stock, and uneconomic working consequent upon the more extensive use of wood fuel—all factors arising from wartime conditions. To the extent of £71,000 the increase in fuel expenditure was due to a rise of 38 per cent. in the average price of wood fuel; consumption increased by 28 per cent. and represented 71 per cent. of the total fuel burnt. The price of imported fuels was 40 per cent. higher. Expenditure on wages rose by £87,000, or 14·9 per cent.

During the year £117,939 was provided for renewals. Expenditure out of the loan granted by the Brazilian Government amounted to £38,000, covering the acquisition of two tank locomotives urgently required for the suburban service, as well as sundry track renewals. In the course of the year 4 Garratt locomotives were delivered and placed in service, the modernisation of Campos passenger station and marshalling yard was continued, and further works directed to operating economies were carried out; in all, over £100,000 was spent during the year.

Department of Overseas Trade

THERE is increasing realisation that in the post-war period, when the revival of our export trade will be a matter of primary importance to the nation, special efforts will be necessary to ensure the most efficient functioning of Government departments which are concerned with the promotion of commerce with overseas countries. The experience of British industrialists in their dealings with Government departments, both during the war and before its outbreak, have not encouraged confidence in their wisdom or ability, and in view of the necessity which undoubtedly will arise to deal progressively and with initiative with a wide variety of commercial problems, it is increasingly essential that the Government machinery should be the most efficient practicable. At the very least, it should not lag behind the similar organisations of administrations of States which in the post-war period may be our competitors. Some welcome awareness of the need to make changes in the post-war set-up of the Department of Overseas Trade and the Board of Trade has been evidenced in the Government decision to establish an Economic Intelligence Department at the Foreign Office, and in the amalgamation of the diplomatic service in the Foreign Office, with the consulate service with the commercial diplomatic service.

In the House of Lords on November 30 the Government machinery for export trade was debated on a motion by Lord Elibank. He pointed out that although it was perfectly true that the revival of our export trade would depend very largely on the initiative and enterprise of individual traders and on the modern efficiency of our manufacturers and industrialists, it was equally true that the best results could not be obtained from those efforts unless they had the assistance of Government machinery with a personnel specially trained and expert in foreign trade, and assisted overseas by specially trained and expert official trade representatives located in the various foreign centres. It was of the utmost importance that these official trade representatives should be on the staffs and have the full backing of our Ambassadors and Ministers of the Foreign Office. For nearly twenty years before the war the Department of Overseas Trade had been a balancing department between the Foreign Office and the Board of Trade, and had been responsible to both those departments. Dual control was unsatisfactory, and Lord Elibank suggested that the Department of Overseas Trade should be taken over completely by the Foreign Office. The Board of Trade should be responsible for our internal and Empire trade. He wished to see formed a new branch of the Foreign Office with executive functions, directly charged with the formulation and carrying out of our foreign trade policy, and headed by a Parliamentarian of weight, high reputation, and practical commercial experience, with the standing of a Minister of State.

The Earl of Listowel, who replied for the Government, said that one of the major tasks of our diplomacy after the war would be the promotion of the export trade of the United Kingdom. In the future the pure diplomatist, unsullied by any taint of commercial knowledge would exist no longer. Although there was no clear line of demarcation between diplomacy and events in commerce or business, he thought there was a very sharp distinction between commercial intelligence, which was relevant to the Department of Overseas Trade, and economic intelligence, such as was collected by the enemy branch of the Ministry of Economic Warfare, which was lately transferred to the control of the Foreign Office. The Department of Overseas Trade, to serve exporters, had to have a first-hand knowledge of the organisation of our exporting industries, of their efficiency and ability to export, and the marketing methods which they used. It must also be able to obtain regular reports from markets overseas of opportunities for export, suitable agents to handle products of particular undertakings, the competitive power of local industries, and the import duties which would have to be shouldered after the war by United Kingdom exporters. The department collected this information through the officers of the diplomatic, commercial, and consular services, which were now branches of the Foreign Service, and through the Trade Commissioners in the

Dominions. The first duty of the commercial diplomatic officers was to report direct to the Department of Overseas Trade. That department naturally kept in touch with the Foreign Office and the Board of Trade, as well as with such external departments as the Dominions Office and the Colonial Office. The Foreign Office would continue to confer with the Department of Overseas Trade and the Board of Trade, and with any other department involved when our exports raise questions of trade policy, as well as of political relations with foreign countries. The new Economic Relations Department of the Foreign Office would act as a liaison department inside and outside the office—inside to correlate economic questions arising in the different political departments of the Foreign Office, and outside to act as a link between the Foreign Office and other departments concerned with external economic policy, such as the Treasury, the Board of Trade, or the Department of Overseas Trade. It would also be responsible for advising the Secretary of State on the probable political consequences of any action taken in the economic field, and the probable economic consequences taken in the political field.

He emphasised that Government machinery was designed primarily to secure the closer co-ordination and co-operation between the activities of the Foreign Office and the Board of Trade and other Government departments dealing with economic affairs. He felt that to isolate the Department of Overseas Trade by putting it in a new department under the Foreign Office might reduce, by removing foreign trade from the purview of the Board of Trade, the effective co-ordination on which the success of our export policy after the war largely would depend.

Lord Elibank, who withdrew his motion, said that he felt that Lord Listowel had evaded the principal issue, which was that of dual control. The machinery which had been outlined by Lord Listowel was so complicated that to whatever extent it might be understood by the department, no one outside would be able to grasp all its implications. If we were to be dependent on the complicated machinery outlined for the revival of our export trade, he felt very despondent about it. So do we.

Export trade in its wider aspects was also the subject of a two-day debate in the House of Lords last week and during the debate on the King's Speech in the House of Commons; particularly valuable contributions were made on December 6 by Mr. Summers and by Sir Oliver Simmonds, who gave some practical examples of the disabilities under which industrialists suffer. That the presence of the President of the Board of Trade in the House had to be sought after the debate had been in progress some time, notwithstanding the fact that it must have been well known that Mr. Summers's speech would initiate an important discussion, attracted some comment. No clear statement of policy by the Government was forthcoming as a result of any of the debates. What did transpire forcefully enough was frank dissatisfaction with, and lack of confidence in, Government methods appertaining to exports. The bald fact is that lipservice to an ideal is not enough; industrialists tire of being told they must increase exports by 50 per cent. over pre-war and at the same time being refused a clear-cut policy on which to plan. All too often any progress made in principle is cancelled by the methods used by the controlling departments. The revival of British trade requires a total effort comparable with that brought to bear on the prosecution of the war. The experience of the war should teach the wisdom of curtailing the " phoney " export trade period.

British Ten-Coupled Locomotives

ONE of the most interesting, as well as one of the most important, locomotive developments which we have recorded since the war is the large-scale production of ten-coupled locomotives in this country. Previously, only two isolated locomotives, built many years ago, had been put to work on British trains. One of these—the pioneer in this country—was the celebrated Decapod 0-10-0 tank engine with which the locomotive department of the former Great Eastern Railway met the challenge of electric traction in intensive suburban work. Built many years before its time, this brilliantly designed engine, because of overriding permanent way restrictions, was converted in 1906 into a tender engine of the 0-8-0 type, which contained very little of the original machine, and was scrapped in 1913 after an inglorious career in its converted form.

The second ten-coupled engine, the Fowler 0-10-0 tender engine built some twenty-five years ago for banking trains up the Lickey incline of the former Midland Railway, also was a special-purpose machine; it is still running as L.M.S.R. No. 2290. These two locomotives were about as different as it is possible for two locomotives to be; indeed the only thing common to both was the possession of five coupled axles.

The latest type of ten-coupled engine is again different in almost every respect from both its predecessors. The most notable fact is that the design of the new 2-10-0s was prepared specially with a view to production in quantity, which at once distinguished the new type from the earlier ten-coupled engines, each of which was unique. Another important difference is that the new engines, roughly, are general-purpose machines within the limitations of their own type. They are not likely to be used on passenger services in this country, but they could probably handle nearly every type of freight traffic. One of the most attractive features about the design, from the operational viewpoint, is the extremely low axle loading, which enables the type to be used over all but the lightest tracks.

Coming to the general features, the design is simply an enlarged version of the earlier 2-8-0 austerity type, with a larger boiler and wider firebox, carried on an additional pair of coupled wheels. It is interesting to note that the cylinders are the same size as in the eight-coupled type, so the newer engines should certainly not suffer from being over-cylindered. The behaviour of the arch tubes in service will be worth the most careful attention, as there can be little doubt that, given adequate maintenance, this feature should very much improve the steaming capacity of the boiler. The rocking grate is another valuable device which is already beginning to win a wide measure of approbation.

Many observers of both types at work have commented on the obvious mastery of the 2-10-0s over their loads, a matter in which they have apparently shown to advantage as compared with the 2-8-0s, which (as might be expected) do not have the same margin of power in hand after meeting immediate requirements. It is reported that when on the road these locomotives run freely and well. They are designed for slow working round 4½ chain curves, and in point of fact take any curve even more easily than the 2-8-0s. This is attributable to the fact that with the centre pair of wheels flangeless, we have what is in effect an engine carried on two rigid bogies made up of the two pairs of leading, and the two pairs of trailing, driving wheels. The side-play allowance, together with slight flexibility of the frame and with no restraint whatever on the centre pair of wheels, enables curves to be taken very easily. The complete absence of grinding on the sharpest of curves has often been commented on and these engines often have to work in restricted yard layouts both at sheds and shunting depots.

After leaving the builder's works, all these engines were run in by the L.M.S.R., before being handed over to the War Office. The first of these machines, after test runs between Glasgow, Craigendoran, and Edinburgh, was handed over to the L.M.S.R. on or about December 5, 1943. In actual operation the boilers are said to have outstandingly good steaming capacities, full pressure being kept under all reasonable conditions, whether the engine is working hard or at restricted cut-offs. The rocking grate has been a great asset in Scotland where inferior coal is all too frequently supplied. The only drawback seems to be a tendency for clinker to form, but the grate is so arranged that the clinker can be broken without need for taking special measures.

As for haulage capacity, there is every indication that these engines can haul loads of 1,000 tons over easily-graded sections. It is possible with this type to work with a very early cut-off, with full regulator, an arrangement which has enabled considerable economies to be achieved. If these engines follow the American 2-8-0s into liberated Europe, as they may well do in the near future, a very wide field of usefulness would appear to await them there.

In conclusion, mention may be made of the remarkable success which has attended both the 2-8-0 and the 2-10-0 austerity designs. Tribute is certainly due to Mr. Riddles and his colleagues for their courage and foresight in inaugurating such very extensive building programmes for new and untried types, one of which, at any rate, was of unusual design. In the case of the ten-coupled engines, there was virtually nothing in the way of previous experience in this country which could be used in working out the design details. The need for these engines was pressing, and there was no time for experiments in the gradual evolution of ideal types. One could well imagine what a furore would have arisen if both or either had been failures. There is all the more reason, then, for congratulating the Ministry of Supply, the North British Locomotive Company, and the Vulcan

Foundry on having produced, in so short a time, two sound, reliable designs of locomotive, and on having built them in such large numbers.

Reinstatement in Civil Employment

THE satisfactory re-settlement in industry of ex-servicemen and women is naturally a matter of deep and widespread interest throughout the country, which is becoming of increasing urgency with the satisfactory progress of the war in Europe, and may reasonably be expected to be a problem of the coming year. From the viewpoint of the employee, far more satisfactory provision has already been made by the Government than was the case in connection with the last war, and the requirements of the Reinstatement in Civil Employment Act, 1944, which came into force on August 1, place an obligation on the former employer to take back into his employment any ex-employees covered by the Act, as well as to retain them in his service for a prescribed period (usually 52 weeks). Any question as to default in the discharge of this obligation is dealt with by a Reinstatement Committee, and, on appeal by an umpire. Superficially, this would appear to place the ex-serviceman in a reasonably secure position, but it is obvious that many practical difficulties will arise, even with the maximum amount of goodwill on the part of the employer, and his desire to honour the Law in spirit as well as in letter. For example, after more than five years of war, there are many specific jobs which have been occupied by a succession of "replacements," who in their turn have left for war service and obviously cannot all come back to the same job. Then, there are the office boys and junior clerks to whom the past five years have meant the transition from youth to experienced manhood, and often a Commission in His Majesty's Forces, with concomitant control of men. Reinstatement as office boys and junior clerks in accordance with the terms of the Act may prove impracticable, unless we are to visualise summoning Captain This or Major That to run our errands at 35s. a week. The plans and intentions of large employers of labour are therefore of more than local interest.

The United Steel Companies Limited, for example, is the largest steel producer in the British Commonwealth, and in normal times its employees number more than 35,000. Nearly 5,000 of its pre-war employees are serving in H.M. Forces, and schemes for the reinstatement of all were under review long before the Reinstatement in Civil Employment Act, 1944. Everyone returning from the Forces will be met, welcomed, and interviewed by specially-appointed reception committees at the respective branches. The General Manager, and other senior officials, will serve on each committee. Pre-war and Service records are being compiled, so that every man is assured of the utmost consideration and help it is possible to give. It is felt that, with the great majority, the paramount desire will be to get back into the old job as quickly and comfortably as possible, but the company feels that something more than the reinstatement required by Law should be done to make the transition from Service to civil life as smooth as possible. The reception committees already mentioned will therefore have the task not only of welcoming those returning from the Services, but also of helping them to deal with the problems of adjustment which are bound to arise frequently, to ensure that the ex-serviceman or woman suffers no disadvantage through prolonged absence from civil employment.

In addition, it is felt that there will be a number of men, particularly those who left as juniors or apprentices, who have evinced outstanding qualities of ability and leadership in the Services, and who should be given the opportunity of developing these qualities in civil life both to their own benefit and that of the community. A special training scheme has therefore been evolved by the United Steel Companies Limited to enable such men to qualify for important positions on the executive and administrative staff as and when vacancies occur.

Although the scheme will be open to all those who have served in the Armed Forces and Civil Defence Services on a full-time basis, it is obvious that it must be restricted to those whose aptitudes warrant such training, and that the numbers accepted must be related both to the quantity that can be absorbed and to the rate of demobilisation, so that those who are demobilised late will not be at a disadvantage. The course of training is planned to last for twelve months and to provide the necessary incentive to candidates to prove their ability. A salary will be arranged individually for each candidate, taking into account age, previous experience, and the pay of the rank attained in the Services. A syllabus of training has been drawn up and this has been designed to be as flexible as possible to meet individual circumstances and the requirements of the company. Such a scheme can interest only a minority, but it is felt by the company that no plan for the satisfactory reinstatement of ex-servicemen would be complete were some machinery not devised to develop the qualities of ability and leadership which have been disclosed in military service.

Machine Tools After the War

THE enormous demands and duties which have fallen on the machine tool industry as a result of war conditions have arisen, in great part, because that industry is the foundation of all engineering industries. The last war threw into prominence the importance of the machine tool as a weapon of war and its vast potential in peacetime. Any nation equipped with a strong and healthy machine tool industry is potentially stronger in the arts of peace than one which is not so equipped. Since the last war the machine tool industry has endured many tribulations arising from causes beyond its control, but nevertheless progress in design and quality of production, and the adoption of many time-saving features, practically have been continuous. It is, however, in the last decade, including the five years of war, that the most progress has been made. Mr. H. H. Asbridge, M.I.Mech.E., a director of the Churchill Machine Tool Co. Ltd., in his presidential address to the Manchester Association of Engineers recently, pointed out that design does not stand still, even in wartime, because it is when working under conditions of great stress that weaknesses are shown up and gradually eliminated in the search for better performances.

Mr. Asbridge gave it as his opinion that the outstanding feature of machine tool design of recent years was the constant striving to save time and manual effort in the manipulation of machines and the elimination of hand work. He recalled the years before the introduction of high-speed steel, which led to the immediate redesigning and speeding up of machines to take advantage of the vastly increased metal-removal capacity of the then new steels. After the introduction and very full exploitation of high-speed steels, the tungsten-carbide high-speed steel was introduced. This resulted in higher and still higher cutting speeds. For, whereas with high-speed steel the call has been for more powerful machines, specially designed for high-speed and heavy cutting, the demand which then arose was for very much higher speeds, but with comparatively light cutting. So far as rapid metal removal by cutting tools was concerned, the limit had been reached some years ago.

One of the factors which had helped in meeting demands for a better or cheaper product, or both, and meeting more exacting conditions in the output or performance of a particular product, was the intensive study of designs and mechanisms, so as either to increase efficiency, to reduce cost of making, or possibly to modify, better to suit existing works plant, and so cut out some more or less redundant operation. Whereas some few years ago this natural alertness had been limited and bounded by the known method of machining and types of machine tools, today slowly but surely the possibilities and scope of improvements in manufacturing methods were being continually developed, and it was fast becoming a problem to determine which of the many methods of finishing a job was going to be the best for a particular proposition.

In his experience the elimination, as far as possible, of methods of finishing by hand work would play a large part in the future planning or layout of work. Any machine or mechanised operation which would obviate hand work, was bound to play a big part in reducing costs per piece, and at the same time would enable a much larger output per man-hour employed. If those engaged in general engineering were to reduce cost and increase general efficiency, it was necessary to replace, as far as possible, the hand work and hand fitting by machining methods and finishing processes, which made such work to a great degree unnecessary. It followed, therefore, that the machine tool in some form or other was destined to play a much more important part, in production, cost, and greater output, than hitherto. There was no doubt that it would be necessary to look much more to the machine tool if we were not to lag behind in our manufacturing efficiency.

Dealing with various aspects of the post-war equipment problem, Mr. Asbridge made an earnest plea for closer relations between users and suppliers of machine tools. Although a few

firms send out specific inquiries with a drawing or description of the job they had to do, and asked for a suitable machine or equipment, generally coupled to a production guarantee, the great majority send out inquiries for specific machines without indicating in any way what work, or range of work, was in view. This procedure could be mutually unsatisfactory to user and supplier, if later it was found that some other type of machine or equipment would have been more suitable. The idea that new machine tools and methods were introduced by the machine tool makers was quite erroneous. Progress in design and labour-saving methods, for the most part, resulted from consultation and discussion with the user, coupled to the experience and knowledge of the tool maker. Mr. Asbridge said that he had no fears of our success in post-war trade, provided we approached the problem by superimposing technical training on to a foundation of practical workshop knowledge. He did not imply any disparagement of our present technical education systems, except to suggest a possible broadening in their scope.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Railway Stock Ownership

Ealing, W.5. December 12

To the Editor of The Railway Gazette

Sir,—The letter from the General Secretary of the Railway Stockholders' Union in your December 8 issue is astonishing. Even if his statements that the annual meetings of the railway companies are a farce, and that the control of the railways is in the hands of "big business," were true, it would still be surprising that such statements should come from that source. But nobody will agree with them if he knows the facts. I can remember several occasions when criticism at an annual meeting has borne fruit. As to control by "big business," the voting is so arranged that even if "big business" controlled half the shares in the companies—which it does not—it still would not secure half the voting power. Surely there is already a sufficient number of ill-informed people anxious to create prejudice against the railways. What is the use of a stockholders union that merely adds to their numbers?

Yours truly,
STOCKHOLDER

Cylinder Wear

The Superheater Co. (Australia) Pty. Ltd.,
185, Elizabeth Street,
Sydney, N.S.W.,
Australia. November 8

To the Editor of The Railway Gazette

Sir,—In your issue of September 1, Mr. D. W. Sanford draws attention to the fact that the position of the valve gear at which engines are allowed to coast on the New South Wales Railways was not stated in your July 28 issue. The instructions given to the enginemen are:—

When about to drift at slow or high speeds, the following procedure should be rigidly adhered to:—

(1) Shut regulator completely and then immediately crack pilot valve in main regulator valve.
(2) Throw valve gear into full forward gear.
(3) Observe drifting gauge and adjust regulator handle to indicate "O" according to the piston speed.

When about to return to engine power for increased speed:—

(1) Adjust valve gear to the required cut-off according to experience with the grade and load.
(2) Open regulator to full position of the quadrant.

If the valve gear is not thrown into full forward gear when coasting, the needle of the drifting gauge vibrates rapidly and continuously, whereas in full gear it remains stationary on "O," provided the regulator is cracked to the correct opening in accordance with the speed of the engine. The full gear cut-off on the N.S.W.G.R. locomotives is 80 per cent.

Referring to Mr. Sanford's statement that if an engine coasts with the valve gear at about 40 per cent. cut-off, neither pressure nor vacuum is produced in the steam chest, the writer very much doubts this statement. If air valves are fitted, air would be drawn into the cylinders up to the point of cut-off, and this can only be done by a partial vacuum. At high drifting speeds the air entering the valve chest at atmospheric pressure would not maintain even this pressure up to the point of cut-off, and then for the remaining 60 per cent. of the piston stroke the partial vacuum would be still further increased and, in consequence, on the maain valve opening to exhaust, there would be considerable suction down the blast pipe. Should air valves not be fitted, the suction down the blast pipe would be still greater.

Should no vacuum be produced if the engines coasted with the valve gear at 40 per cent. cut-off, there would have been no necessity for the numerous inventions of the past, such as air valves, by-pass valves, etc., except, perhaps, the placing of air valves on the superheater headers to prevent the overheating of the elements when coasting. But, on the other hand, the object of the air valves would have been defeated, should Mr. Sanford's contentions be correct.

The writer entirely agrees with Mr. Sanford's statement that: "the pressure in the cylinders falls during the interval between cut-off and the point where the valve opens to exhaust." This, however, appears to be directly opposed to his statement in respect to the 40 per cent. cut-off and referred to above.

With regard to the suggestion that 15-lb. gauge pressure should be maintained on the drifting gauge when coasting, even should this pressure not be enough to overcome the resistance of the engine, it would cause the engine to drift at very much higher speeds, and would frequently necessitate the application of the brakes to prevent excessive coasting speeds. Further, the writer cannot visualise any responsible officer issuing such instructions, for should a driver overshoot a signal or commit any similar irregularity, it might be very difficult to hold him responsible.

Yours faithfully,
R. S. YORK,
Director & Manager

Collecting Locomotive Numbers

225, Laleham Road, Staines, Middlesex. December 4

To the Editor of The Railway Gazette

Sir,—The heading to a paragraph in your December 1 issue relating to some boys who were prosecuted at Tamworth for trespassing on the railway line whilst "spotting" locomotives was "A Dangerous Craze." I suppose that I must admit to being partly, at any rate, responsible for this enormous wave of locomotive enthusiasm which is rampant all over the kingdom; but I can at least claim to have helped to popularise the railways. You say it is a dangerous pastime—I agree that it can be and so can any pastime; boys will get out of hand. But why do not the railways do more to encourage the railway enthusiast, rather than rebuff him? After the war, there is no doubt that the railways will be hard put to it to hold their own against the competition of other modes of transport and it is of great importance to them, I should have thought, to do all that is possible to encourage interest in their concerns. Even now many of these "railwayists" travel miles to "cop" an engine that they have not seen previously, and after the war I have no doubt that the railways could net a big revenue from such journeys. Whatever is done to try to discourage boys from this number collecting hobby will have no appreciable results. So why not give the whole thing more or less official recognition?

For instance, until recently a vacant space at the London end of Platform 5 at Clapham Junction, which is never used by passengers, was packed on Saturday afternoons with "spotters." Naturally when a lot of boys get together without control, things might get dangerous, but it would not cost the railway company much to put a 3-ft. 6-in. mesh-fence around the area with about a 6-ft. space from each platform face. No trouble would be caused to the railway staff and the spotters would be kept entirely out of mischief and danger—a fee of 3d. for the afternoon would be gladly paid by any of the boys and might prove a useful revenue; anyhow, it would certainly pay for the fence ten times over.

Yours faithfully,
I. ALLAN

[The phrase "a dangerous craze" was used in the Court at which the boys were prosecuted. In our view the practice of collecting locomotive numbers is a perfectly legitimate form of railway enthusiasm and a hobby which may be both instructive and useful. The main-line railways have afforded special facilities for the indulgence of this hobby and also for visits to engine sheds on Sundays. It would be a pity if the practice of noting locomotive numbers were to fall into disrepute as a result of the irresponsible conduct of a very small minority of collectors. It was against the irresponsible conduct of trespass on the line and placing coins on the metals that the strictures of the Bench were directed.—Ed. *R.G.*]

The Scrap Heap

A woman pulled the communication cord of an express train near Rugby recently because, she explained to officials, her dog had slipped its collar and had jumped out. She threatened to jump out herself if the train continued on its journey, but the train went on.

* * *

QUESTION TIME ON THE SOUTHERN RAILWAY

Nearly 24,000 personal inquiries a week are made at the London terminal stations of the Southern Railway. In one week alone, 8,000 personal inquiries were dealt with at Charing Cross Station; and in the same period 21,785 telephone inquiries were received at Waterloo Central Telephone Enquiry Bureau.

* * *

VESTED INTERESTS

Noble Lords on the Benches on my left have sometimes inveighed against vested interests, mainly of individuals and corporations, but I can assure them that if an attack is made on the vested interests of a Government Department the trouble is infinitely greater.—*The Earl of Perth speaking in the debate on Government machinery for the export trade in the House of Lords on November* 30.

* * *

According to a report by Reuters, Major-General G. S. Szlumper, Director-General of Supply Services of the British Ministry of Supply, and former Southern Railway General Manager, said in Cape Town :—

"After the war all transport in Great Britain should be run as a sort of public corporation with pooled funds. It should have neither exclusive Government control nor be run by private companies on competitive lines." (*See editorial note, page* 589.)

* * *

A "CAR OF REFUGE"

A writer in the *New York Times* of 1881 says, "We are inclined to boast of the various conveniences offered to the travelling public by our railway companies. In addition to ordinary passenger cars, we have palace cars, sleeping cars, dining cars, and smoking cars, together with tables for the use of card players, and a peripatetic library in charge of the newsboy. While the railway companies deserve credit for what they have done, they have been strangely negligent in one respect. They have failed to provide a 'car of refuge' for passengers who have special reasons for secluding themselves from the rest of the passengers. Such a car is as necessary as a smoking car or a sleeping car, and would command the enthusiastic approval of a very large class of American travellers."

L.M.S.R. CLAIMS DRIVE

In wartime the claims bills which have to be met by the railways have grown enormously. The L.M.S.R. has started a vigorous campaign to make its staff "claims conscious." The campaign is in three stages—"Start Right"; "Keep Right"; and "Finish Right," as epitomising the three essentials to the safe and efficient transport of goods and parcels from the point of receipt to the point of delivery. An essential part of the campaign is a series of articles, under the pseudonym "C. L. Aymes," in the L.M.S.R. staff newspaper, *Carry On*, which in addition invites railwaymen and women to submit slogans, the best of which are published. So far only the "Start Right" aspect has been reached and for which over 1,000 slogans have been submitted. Here is a selection of them :—

IT MIGHT BE MINE.
R. F. W. Eardley, Road Motor Engineers, Birmingham.

IF AT FIRST YOU START IT RIGHT, OTHER'S PROBLEMS WILL BE LIGHT.
J. Ward, D.G.M.O., Claims Dept., Broad Street, L.M.S.R., 100.

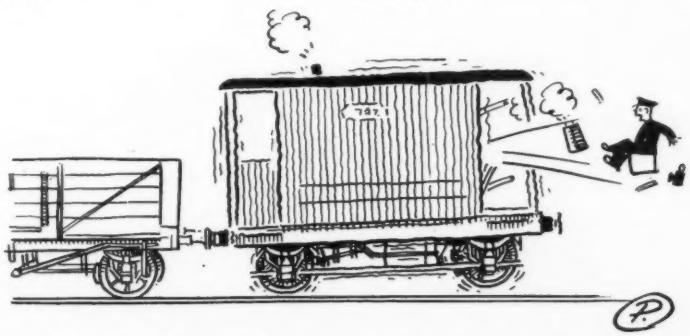
FROM START TO FINISH LET US SAY "THIS PARCEL'S GETTING THROUGH O.K.,"
AND USE THAT LITTLE EXTRA CARE
THAT WILL ENSURE IT GETTING THERE.
H. T. Needham, Chief Accountant's Dept. (Audit Section), Derby, 49.

MAY BE YOURS
MAY BE MINE.
KEEP IT SAFE AND SEND ON TIME.
Fred Butters, Relief Clerk, Motive Power Crewe.

HANDLE THAT PARCEL AS IF IT WERE YOURS.
W. Barnard, 16, *Walton Road, Gloucester.*

* * *

I have been asked if the English are human . . . One day a lion which was being taken by train to a zoological garden escaped from its truck in a big station on the outskirts of London. What would have happened on the Continent? All the local busybodies would have been collected from the pub, and would have organised a round-up, shouting and flourishing pitchforks and cudgels. The lion would have been terrified and infuriated and, finally, he would have been killed. What happened at Clapham Junction? A station official called on the Home Guard, who loaded their rifles and went to face their royal opponent: they offered him a bit of horse-flesh, whereupon, with a nonchalant air befitting an English lion, he returned to his cage.—*Arthur Wauters writing in "Message," the Belgian monthly review published in London.*



"He'll snatch the ruddy train from under me one of these days"

Private enterprise, they say, is lacking in foresight: planning is required to obviate the gross errors which emerge from short-sighted individualism. Well, most

An illustration from "Why Planning?" by G. L. Schwartz

planners are under the impression that if they had been present at the historic occasion of the opening of the Stockton-Darlington Railway, they would have gone up to the inventor and said, "George, old boy, you're doing it all wrong. You should be using electricity, not steam."—*From "Why Planning?" by G. L. Schwartz*, 1*s.*, *the Signpost Press.*

* * *

After opening the Regina Fair, Mr. D. C. Coleman, Chairman and President of the Canadian Pacific Railway, was made a chief of the Piapot tribe of Cree Indians, from the Qu'Appelle Reserve, with the title of "Chief of the Iron Trails." Chief Abel Watatch, in performing the ceremony, said : "For many years the Indians of the Piapot band of Crees have regarded with respect and astonishment the mighty patriotic achievements of the great corporation of which you are the great chief. It has surmounted great obstacles and overcome difficulties almost beyond the comprehension of the human mind. It has transformed the country from an untracked wilderness to a region of happiness and has brought prosperity and peace to our people."

* * *

RAILWAY BLUES

(*Some extracts from verses by Signal-lad D. Smith of Blackfriars, published in "The Southern Railway Magazine"*)

The porter tidies up the place,
And makes it spick and span.
Then female painters, full of grace,
Upset their pail or can.

The Stationmaster says "Don't shirk,
I'm sure you'll never rue it,"
He says he's very fond of work,
Then sits down while we do it.

There's just one man we'd like to tell
To keep off of our tracks,
He works real hard—and does it well—
Deducting income tax.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents

UNITED STATES

Locomotive Shed Re-arrangement

One of the most important locomotive depots on the Chicago, Rock Island & Pacific Railway is the main shed at Kansas City, known as Armourdale, which has been reorganised recently to secure more rapid servicing of engines. About 85 locomotives, most of them large, are serviced daily. Three-fifths of these burn oil, on services west of Armourdale, and the remainder coal.

The improvements have been so thorough as in effect to put ten additional locomotives in service. One important change has been so to locate the oil-fuel, water, and sand supply that at one " spotting " a locomotive can take all three simultaneously. The supply system has been so improved that the time for filling 25,000-gal. tenders with water has been reduced from 14 to 3½ min., and the time for taking fuel oil has come down from 8-10 min. to 4-4½ min. Water is delivered by two 12-in. water-cranes with hydraulically-balanced spouts, which can supply 6,000 to 7,000 gal a min.; the 8-in. oil fuel cranes each have a delivery capacity of 1,200 gal. a min. with gravity flow. The oil fuel used is a heavy black distillate residue, which needs heating both in winter and summer to reduce its viscosity sufficiently to enable it to flow freely.

The tracks giving access to, and exit from, the yard, which previously were arranged inconveniently, and sometimes caused 10 or 15 locomotives to wait their turn in getting to the shed, have been re-arranged, and delay is now rare.

New 4-8-4 Locomotives

The latest 4-8-4 locomotives of the Chicago, Rock Island & Pacific Railway afford an admirable illustration of the modern American principle of assuring an ample reserve of steam to meet all operating conditions. Fifteen years ago the first Rock Island 4-8-4s, of the "5000" class, were introduced, with 26 in. by 32 in. cylinders, 5 ft. 9 in. driving wheels, 88·3 sq. ft. firegrate area, 7,786 sq. ft. combined heating surface, 250 lb. pressure, and a tractive force of 66,700 lb.

Whereas in the new 4-8-4s the tractive force (67,000 lb.) remains practically unchanged, the driving wheels are increased to 6 ft. 2 in. The cylinders remain at 26 in. by 32 in., but the pressure is increased to 270 lb. per sq. in., and the firebox is increased in size (the firegrate area is 96·2 sq. ft.). The combined heating surface is reduced to 6,011 sq. ft., but this is due to a shortening of the tubes which has been necessitated by an increase in the combustion space. The weight of engine in working order is 218½ tons, and of the 12-wheel tender, two-thirds loaded (the full capacity is 21,500 gal. of water and 5,500 gal. of oil fuel), 134½ tons, total 353 tons. Although the equipment is for oil-firing, provision is made for the substitution of an automatic stoker if required. Roller bearings are used throughout.

There are ten of the new engines, which, with 65 of the " 5000 " class, bring the total of Rock Island 4-8-4s to 75.

A Station Transformation

Much is being done in the United States towards modernising stations. A large terminal recently overhauled in this way is the Union Station at Kansas City, the interior of which has been transformed at low expenditure. Appropriately, the reconditioning coincides with the fiftieth anniversary of the opening of the station.

With 42 platform tracks, Kansas City Union Station is one of the largest in the world. All the platforms open off one uninterrupted concourse, 709 ft. long, known as the " midway." The lower part of the partition separating this hall from the platforms, originally of sheet metal, has been replaced by a brightly-tiled wall, in which large plate-glass windows are installed to give a good view of the train tracks, with sliding oak doors giving access to the platforms. Just below the roof, two parallel rows of 6-tube cathode neon lights, behind ground-glass panels, provide continuous lighting for the whole of the midway, and, with the *terrazzo* flooring and side tiling, impart a cheerful and pleasing appearance. Heating is by means of revolving steam heaters suspended from the roof. Various shops line the midway on the side opposite to the platforms.

The grand hall, on the floor above, has been remodelled; the old booking office windows have been replaced by a new " streamline " open ticket counter, with space for 16 ticket sellers, who themselves are much more conveniently placed than before for access to the ticket cases of the 16 railways using the station. Fluorescent lighting, cheerful colourings, and modern fixtures have been used throughout.

CHILE

New Station for Santiago

The Chilean State Railways are to construct a new station, with ample office space, on the site of the present Mapocho Station, a few blocks from the centre of Santiago. This station is the point of arrival and departure of the electric line between the capital and Valparaiso. The cost is expected to run into millions of pesos, and about 5 years will be required to complete the project. Construction has begun on the north wing.

The new station is to have ample waiting rooms, restaurants, stores, postal and telegraph facilities, and telephone booths. Generous parking space for cars will be provided. When the station is completed, goods trains will be unloaded at a new depot near by, leaving the new terminus exclusively for passenger travel.

It is reported that the State Railways plan to expropriate about 30,000 square metres of land in the vicinity of the Alameda or Central Station of Santiago, with the intention of using it for an increased fleet of motor lorries destined to amplify its house-to-house goods and luggage service.

CUBA

Duty-Free Railway Imports

During the three-year period beginning August 10, 1944, railway companies operating in Cuba may import rolling stock, equipment, and materials, from the United States on a duty-free basis, in accordance with Decree No. 2396 published in the *Official Gazette* of August 10. Railway companies taking advantage of this exemption from payment of duty must use the imported materials for repairs and replacements. They may not sell such equipment within five years of importation unless the import duties are paid.

Railway Revenues

The demands upon Cuban transport facilities during the second quarter of the year were considerably greater than during the comparable period in 1943, and revenues were correspondingly higher. The total revenues of the United Railways of Havana during the second quarter of 1944 totalled 4,069,962 pesos, compared with 3,602,573 pesos in the corresponding period last year. Revenues during the first quarter of 1944 were 4,543,190 pesos, against 3,852,760 pesos in the comparable period in 1943. During the financial year July 1, 1943, to June 25, 1944, the revenues of the company totalled 14,573,705 pesos, compared with 13,203,456 pesos in the preceding financial year.

Habana Tramway Traffic

Tramway traffic in Cuba was heavier in the first half of this year than in the corresponding period of 1943. Revenues of the Habana Electric Railway Company for the period from January 1 to June 25, 1944, totalled 2,578,399 pesos compared with 2,135,954 pesos last year. Passenger traffic handled by the Omnibus Aliados, the principal bus transport company serving Habana and vicinity, is reported to have been higher in the second quarter of this year than in the corresponding period of 1943.

SWITZERLAND

Toggenburg Transport Problems

The Toggenburg valley, in north-eastern Switzerland, is served by standard-gauge lines of the Federal and Bodensee-Toggenburg Railways from the Zürich and Winterthur and St. Gall directions, respectively; the private company's line ends at Nesslau. The Upper Toggenburg, with its tourist and winter-sports centres, is served by Swiss Post-Office buses which proceed as far as Buchs, the important junction and frontier station in the Rhine valley. A metre-gauge line was proposed in 1919 and powers were actually granted three years later for its construction; but the scheme was dropped on account of the prohibitive cost and meagre traffic prospects. A new project, for the extension of the standard-gauge line from Nesslau to Unterwasser, was mooted in 1934, but also failed to materialise, chiefly on account of lack of local support.

Railway Scheme Favoured

Since the war, the rapid extension of trolleybus services in Switzerland has caused proposals for a trolleybus line from Nesslau to Buchs, for both passenger and goods services. In view of tyre shortage, however, all trolleybus schemes have been dropped during the last two years, and services on existing lines and on bus routes severely curtailed; this has caused some reaction in favour of a railway, the more so as the winter-sports centres of the Upper Toggenburg have been developed during recent years and require, during the season, more adequate transport facilities than can be provided by road services.

Proposed Solutions

Unterwasser has a cable line to Iltios and a ski-hoist thence to Stöfeli; and there is a " funi-ski," or sledgeway, from Wildhaus to Oberdorf. The prosperity of these centres, and of the whole valley, depends on ability to cater for large numbers of visitors; and even under normal conditions the postal buses do not represent a satisfactory means of coping with large crowds of skiers at weekends.

The solutions proposed are: (*a*) an extension of the standard-gauge line at least to Unterwasser, with a bus service thence to Buchs; (*b*) construction of a metre-gauge line from Nesslau to Buchs. Both schemes will remain in abeyance until after the war.

British-Built Austerity 2-10-0 Locomotive

Very low axle loadings are a feature of the latest austerity design

FULL details are now available of one of the most interesting and important locomotive designs of recent years, namely, the 2-10-0 type tender locomotive which has been built by the North British Locomotive Co. Ltd. for the Ministry of Supply. A number of locomotives of this design have been at work on heavy freight trains on main lines in this country, and with the introduction of such details as the rocker grate and drop ashpan, valuable experience has been gained by the British railways in the use of locomotives embodying these features.

The rocker grate permits of quick disposal of the fire in the ashpit and makes it an easy matter for the fireman to break up clinker over the whole area of the firegrate whilst the engine is at work; the dropping of the fire, disposal of ashes in the ashpan, breaking up of the clinker, dropping of the fire into the ashpit, can be performed in from 5 to 10 minutes at the locomotive depot, whereas with the type of grate and ashpan normally fitted hitherto on British railway engines, the same operations would take from 20-30 minutes and in some cases 50 minutes.

The engine has proved very satisfactory in service, handling heavy loads with comfort, it steams well and is free running. The layout of fittings in the cab, combined with good riding, are features which are appreciated by the footplate staff. The general style of the locomotive is that of the 2-8-0 austerity type, enlarged considerably, but retaining all the simplicity and robustness of the earlier eight-coupled engine.

There have been only two precedents for the use of ten-coupled wheels in this country —the famous Decapod 0-10-0 tank locomotive built at the Stratford Works of the Great Eastern Railway in 1902, and the Derby-built 0-10-0 Lickey Incline banking locomotive which appeared on the Midland Railway in 1920. Remembering the regrettable fate of the former engine, which fulfilled all requirements except that of lightness on the permanent way, it is interesting to note the extremely low axle loadings (as compared with the Decapod) of the new design. An ample boiler, with a most generous steam space is provided, and the firebox which is of steel, is equipped with three arch tubes, which are something of a novelty in British railway practice. So also are the ball-and-socket-type flexible stays in the combustion chamber and in the first three rows of the roof, and in the "breaking zone" of the water space stays. The cast-iron firebars of the Hulson type, which form a rocking grate which can be operated by hand from the footplate, and the self-cleaning hopper-type ashpan, are further features of note. For all their size and power, these new engines are remarkably light, and able to work over most main lines, both in this country and on standard-gauge railways abroad.

Main Particulars

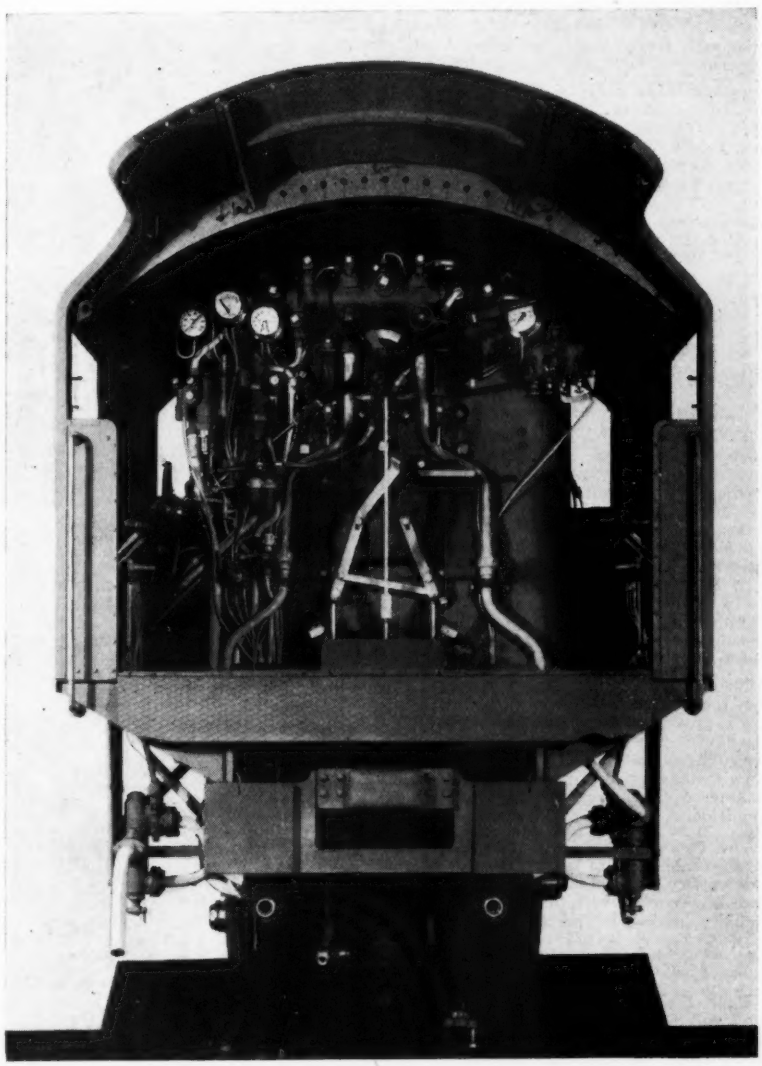
There are two outside cylinders driving the third pair of coupled wheels, which are flangeless, and Walschaerts motion is employed for actuating piston valves working above the cylinders; these valves are arranged for inside admission. The hand-screw reversing gear is arranged for left-hand drive. Below are given some dimensions and weights:—

Cylinders (2), dia.	19 in.
Piston stroke	28 in.
Piston valves, dia.	10 in.
Piston valves, max. travel	6¼ in.
Wheels, coupled, dia.	4 ft. 8½ in.
Wheels, leading truck, dia.	3 ft. 2 in.
Wheelbase, coupled	21 ft. 0 in.
Wheelbase, total	29 ft. 8 in.
Boiler heating surface—	
Large tubes	589 sq. ft.
Small tubes	1,170 sq. ft.
Firebox, including arch tubes	192 sq. ft.
Total evaporative	1,951 sq. ft.
Superheater surface	423 sq. ft.
Combined total	2,374 sq. ft.
Grate area	40 sq. ft.
Boiler pressure	225 lb. per sq. in.
Tractive force (85 per cent. b.p.)	34,215 lb.
Adhesive weight	67½ tons
Weight of engine in working order	78½ tons
Weight of tender in working order	55½ tons
Total weight of engine and tender	134 tons

The tender has eight wheels; it has a self-trimming coal bunker of 9 tons capacity. The water tank, which is of welded construction, has a capacity of 5,000 gal.

Economy Features

Though the new engine is intended to meet main-line operating requirements and will easily handle 1,000-ton trains at a speed of 40 m.p.h. or thereabouts, every opportunity has been taken to make the design an economical one from the manufacturing point of view. To minimise the requirement for labour all parts have been kept as simple as possible. Here and there some slight elaboration has been deemed desirable to make the engine accessible for cleaning and overhaul, but generally only the most straightforward principles of construction have been employed. Fabrication has been the method used in the construction of many components that would normally be made from steel castings and forgings. The main reason for its adoption is to limit the demand for steel castings and forgings, manufacturing facilities for which were already fully engaged in meet-



Rear-end view of engine showing cab arrangements

ing other wartime requirements. Certain steels and non-ferrous materials were in short supply; their use in the new locomotives was restricted to the minimum.

Interesting instances of the elimination of steel castings and forgings by the use of fabricated parts are found all over the engine, but four examples must suffice.

As an illustration of simplicity in design leading to economies in labour the boiler makes a good example; the round-topped firebox and the parallel barrel make it a particularly straightforward type for quantity production. Its clothing consists of steel plates carried on crinolines, insulation being provided by asbestos mattresses on the boiler barrel and firebox and plastic magnesia on the throat plate.

The axlebox guides, which would normally be cast steel, are made from flanged plate reinforced by triangular ribs. Brake-hanger and spring-link brackets are made from strip material; a bent piece and a straight piece are welded together to form a single bracket of the type that is usually forged. The reversing rod is tubular with the ends welded on and the reverse shaft is likewise a tube with forged ends and levers welded in place.

Cast iron is used in the normal way for the cylinders, for the blast pipe, which is in one piece, and for the smokebox saddle which has the exhaust passages formed in it. The front-end cylinder covers are of cast iron and so is the chimney. Cast iron has been used to replace steel in the manufacture of certain of the wheels. The centres of those on the first two coupled axles and on the last two coupled axles are of high-duty cast iron; the main driving-wheel centres are of steel castings; the leading-truck wheels and the tender wheels are rolled with tyres in one piece but there is an ample rim section so that they can be re-turned after wear has taken place and fitted with new tyres when necessary.

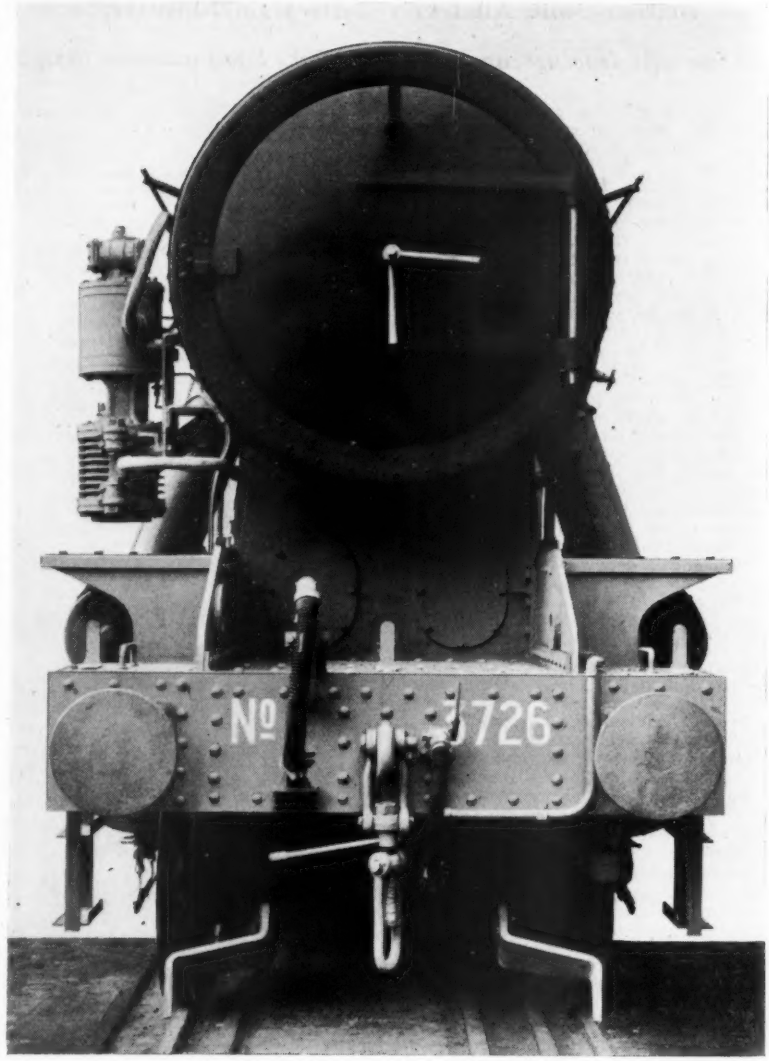
The steel and iron centres of the coupled wheels are of similar pattern and are pressed on to their axles. Rather less pressure, about 6 instead of 10 tons per inch of axle diameter, is used to press on the iron centres. Balance weights are cast integral with the centres and no allowance is made for balancing reciprocating parts. The rear-cover castings for the cylinders are of steel, as these are required to support the front ends of the crosshead-slide bars.

No compensating levers are provided in the locomotive springing, nor is there any provision for adjustment after assembly. The tender springing is compensated so that it will run satisfactorily, notwithstanding its relatively light axle loading, over a track not in the best of condition.

The two-wheel truck at the front end of the engine is of the three-pin swing link variety; it enables the locomotive to negotiate curves with a radius down to 6 chains, and 4½ chains at slow speeds.

The Valve Gear

Plain bearings are used throughout in the valve operating mechanism; the bushes are made of cast iron. The valves are provided with a steam lap of 1⅛ in., and an exhaust clearance of $\frac{1}{16}$ in. In full forward gear there is a clearance of 1⅛ in. at the bottom of the link and the slip of the dies is ¾ in. In backward gear the clearance at the top of the link is 1 $\frac{7}{16}$ in., and the slip of the dies is 1⅜ in. Tables are given herewith showing the valve events in forward and backward gear.



Front-end view of 2-10-0 austerity locomotive

Particulars relating to the material used in certain parts of the locomotive are given in the following table:—

Description	Material	Tensile strength tons per sq. in.	Test specification
Boiler shell plates	Steel	25—30	BSS. 24—16
Inner firebox	Colville's "double crown" brand firebox steel	23—28	—
Waterspace stays (rigid and flexible)	Colville's O.H. steel	28—32	BSS. 24—8
Roof stays (rigid and flexible) ...	Steel	26—32	BSS. 24—8
Boiler and arch tubes	Steel	20—26	BSS. 494
Flue tubes	Steel	20—28	BSS. 512
Axles	Steel	35—40	BSS. 24—2
Tyres (coupled)	Steel	56—62	BSS. 24—4D
Connecting rods	Forged steel	32—38	BSS. 24—8C
Coupling rods			
Crank pins			
Eccentric cranks			
Drawhooks			
Screw couplings			
Piston rods, slide bars, reversing screw	Forged steel	40—45	BSS. 24—8D
Laminated springs	Steel	—	BSS. 24—6b
Coupled wheel centres (except main driving)	High duty cast iron	—	BSS. 786
Main driving wheel centres ...	Cast steel	26 min.	BSS. 24—10
Tender wheels	Steel, solid forged and rolled	—	BSS. 468
Leading truck wheels ...			

VALVE EVENTS

Lap of Valves = 1¼ in. Exhaust Clearance = 1/16 in.

FORWARD GEAR

Per cent. Cut off	Notch Angle	Travel Inches	Lead F.P.	Lead B.P.	Lead D.	Port opening F.P.	Port opening B.P.	Port opening D.	Cut off per cent. F.P.	Cut off per cent. B.P.	Cut off per cent. D.	Release per cent. F.P.	Release per cent. B.P.	Release per cent. D.	Angle of release F.P.	Angle of release B.P.	Angle of release D.	Compression F.P.	Compression B.P.	Compression D.	Exhaust travel F.P.	Exhaust travel B.P.	Exhaust travel D.
			In.	In.		In.	In.	In.													In.	In.	In.
Full	19¼	6¾	¼	¼		1⅛	1⅛	⅛	77	73¼	3¼	92	91¼	1¼	145	147	2	92	93	—	3 7/16	3 7/16	⅛
70	18	6½	¼	¼		1⅛	1⅛	⅛	73	69¼	3¼	91	89¼	1¼	143	143¼	¼	90¼	91	—	3 7/16	3	⅛
60	14	5¾	¼	¼		1⅛	1⅛	⅛	64¼	60	4¼	87	85¼	1¼	136	137	1¼	87	88¼	1¼	2 7/16	2⅞	⅛
50	10¼	4⅝	¼	¼		⅞	⅞	⅛	52	50	2	82¼	80¼	2	128	129¼	1¼	82	84¼	2¼	2 7/16	2⅞	⅛
40	8	4½	¼	¼		⅞	⅞	⅛	42	41¼	1	79	76¼	2¼	122	124	2	77¼	80¼	3	2 7/16	2⅞	⅛
30	6	3⅝	¼	¼		⅞	⅞	⅛	30¼	30¼	0	72¼	70	2¼	113	115	2	73	75	2	1 13/16	2⅛	⅛
20	3¼	3⅛	¼	¼		⅞	⅞	⅛	21	19	2	65	63¼	1¼	104¼	108¼	4	66	67¼	1¼	1 13/16	1⅞	⅛
10	1	3⅛	¼	¼		⅞	⅞	⅛	10	9	2	54	54	0	91	97	6	56¼	57¼	1¼	1 13/16	1⅞	⅛
Mid	0	3⅛	¼	¼(b)		¼(f)	¼(b)	0	8¼	6¼	2	50¼	50	1	87	93	6	52¼	52¼	0	1 13/16	1⅞	⅛

BACKWARD GEAR

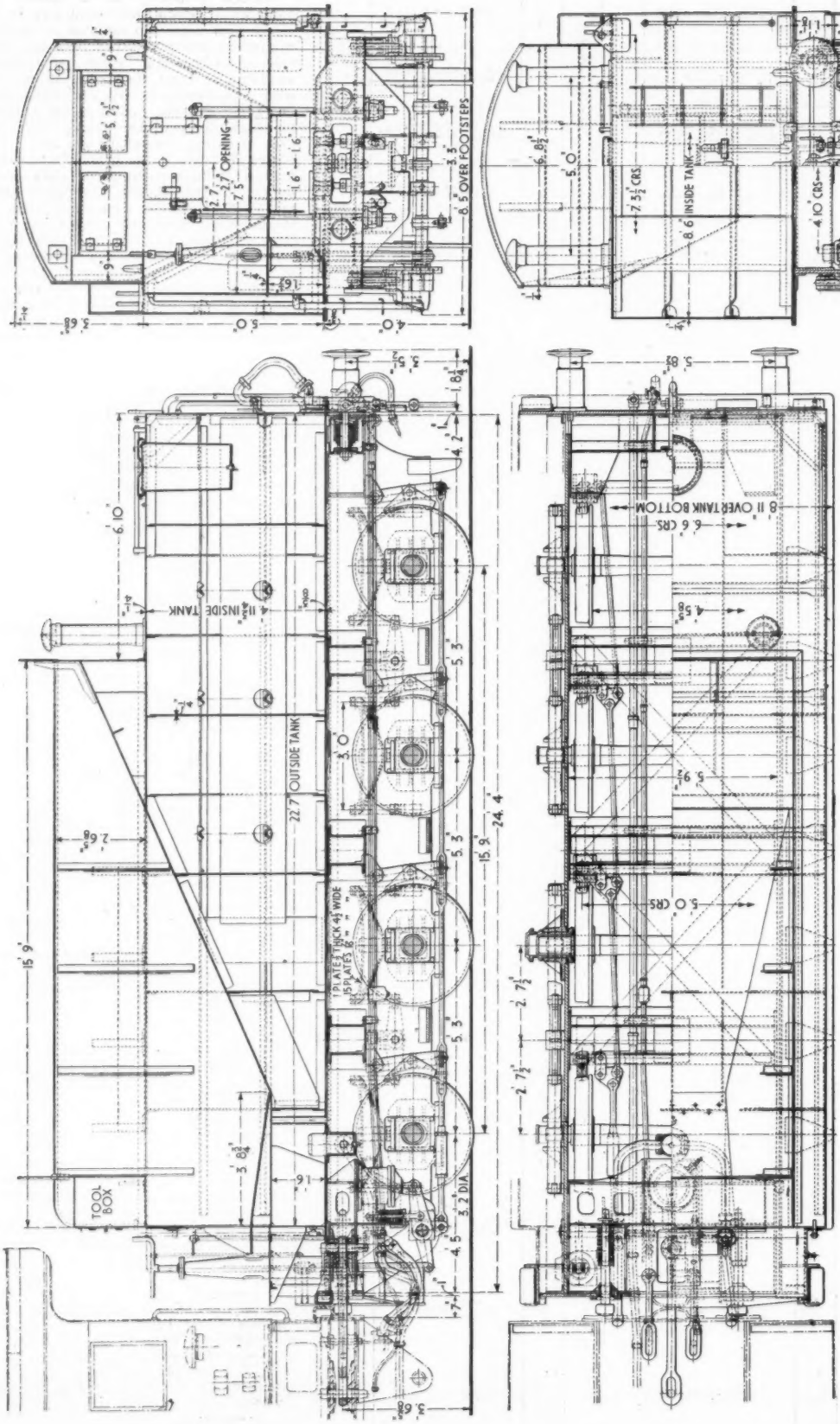
Per cent. Cut off	Notch Angle	Travel Inches	Lead F.P.	Lead B.P.	Lead D.	Port opening F.P.	Port opening B.P.	Port opening D.	Cut off per cent. F.P.	Cut off per cent. B.P.	Cut off per cent. D.	Release per cent. F.P.	Release per cent. B.P.	Release per cent. D.	Angle of release F.P.	Angle of release B.P.	Angle of release D.	Compression F.P.	Compression B.P.	Compression D.	Exhaust travel F.P.	Exhaust travel B.P.	Exhaust travel D.
			In.	In.		In.	In.	In.													In.	In.	In.
Full	20	6¾	¼	¼		1⅛	1⅛	⅛	80	71	9	98¼	89¼	9	150¼	156	5¼	90	94	4	3 7/16	3 7/16	⅛
70	17¼	5¾	¼	¼		1⅛(b)	1⅛	⅛	75	68	7	92	87	5	146	151	5	88¼	93	4¼	2 15/16	3	⅛
60	14¼	5¼	¼	¼		⅛	1⅛	⅛	65	60	5	89	84	5	140	144	4	86	90¼	4¼	2 7/16	2⅞	⅛
50	10¼	4¼	¼	¼		⅛	⅞	⅛	52	49¼	2½	84	80	4	131	130	—	81¼	85	3¼	2 7/16	2⅞	⅛
40	8¼	4	¼	¼		⅛	⅞	⅛	40¼	40	1	79	76	3	124	124¼	¾	78	81	3¼	1 15/16	2⅞	⅛
30	6¼	3⅝	¼	¼		⅛	⅞	⅛	31¼	31	1	74	71¼	2½	116	119	3	73¼	77	3¼	1 15/16	2	⅛
20	4¼	3⅛	¼	¼		⅛	⅞	⅛	21	20¼	1	66	65	2½	106	111	5	67¼	69	1¼	1 13/16	1⅞	⅛
10	1¼	3⅛	¼	¼		⅛	⅞	⅛	11	9	2	56¼	54	—	92¼	98	5¼	57¼	57	1	1 13/16	1⅞	⅛
Mid	0	3⅛	¼	¼(b)		¼(f)	¼(b)	0	7½	7	2½	49	49	0	86	93	7	52¼	52	½	1 13/16	1⅞	⅛

Though generally of a special and economical design the locomotive is provided with a certain amount of standard equipment where this has been felt desirable or where the parts were readily available. Thus the boiler is provided with a superheater by the Superheater Co. Ltd., and the cylinders are equipped for high temperature steam with cast-iron packings supplied by the United States Metallic Packing Co. Ltd. Boiler fittings include two pop safety valves by David Auld & Son, two water gauges by W. N. Baines & Company, boiler and steam brake pressure gauges by Smith Bros. (Hyson) Limited, and two No. 11 injectors with No. 10 cones by Davis & Metcalfe Limited. The latter are fitted under the footplate. Both are of the right-hand pattern and therefore interchangeable. They are connected to two top-feed valves which are mounted on the boiler between the dome and the chimney. Cylinder lubrication is by means of a Detroit sight feed lubricator fitted in the cab; this is by the Vacuum Oil Co. Ltd.

Steam braking is provided on the engine and tender; equipment is provided for both vacuum and pressure braking on trains. Vacuum brake equipment is supplied by the Vacuum Brake Co. Ltd., and pressure brake equipment by the Westinghouse Brake & Signal Co. Ltd. The Westinghouse brake pump, which is of the K.L.2A type, is mounted in an accessible position on the side of the smokebox. The air reservoirs are fitted out of sight between the frames. A special steam-brake valve by Gresham & Craven Limited provides manual or automatic application of the locomotive brake. Automatic application takes place when the train brakes are applied and is proportional to the strength of the train braking whether this be by vacuum or compressed air. The buffers on engine and tender are supplied by G. Turton Platts & Co. Ltd.

The materials listed in the accompanying table are of the most widely available kind and among the numerous suppliers may be mentioned Colvilles Limited for boiler shell plates, inner firebox plates and steel stays, Steel, Peech & Tozer Limited, for axles, tyres, and laminated springs, Taylor Bros. Ltd. for axles and rolled steel wheels, Stanton Iron Works Limited, and Coltness Iron Co., Ltd., for wheel centres, and Glenboig Union Fireclay Co. Ltd. for refractory material. Forged steel parts are made by Scottish Stamping & Engineering Co., Ltd., Dudley Drop Forgings Limited, Metropolitan-Cammell Carriage & Wagon Co. Ltd., Armstrong Stevens & Sons, and P. & W. MacLellan Limited, among others.

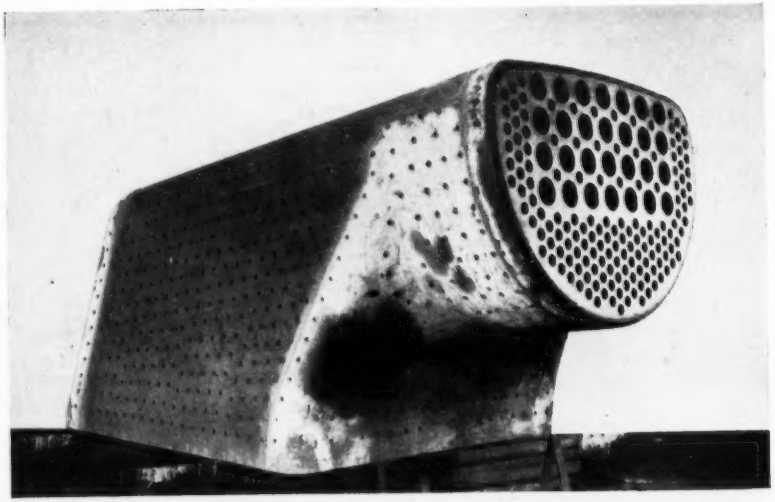
A point of interest to operators of the new locomotives is their ready adaptability to altered conditions. The boiler can be converted for oil burning without removal from the engine; it is necessary only to add a false bottom in the ashpan and fit front oil burners. The slides normally occupied by the two halves of the firedoor serve to hold in position a firehole blanking plate which is provided with a firedoor having a small opening for furnace observation. Alternatively an oil burner may be fitted at the firedoor. The tender is as readily adaptable as the engine; it can, moreover, be provided with a water scoop. The narrow bunker shown in the illustrations gives excellent visibility when the engine is running tender first, and it leaves a convenient ledge on which to accommodate fire tools. Bolt holes are provided in front of the engine to facilitate the fitting of a cowcatcher for service overseas.



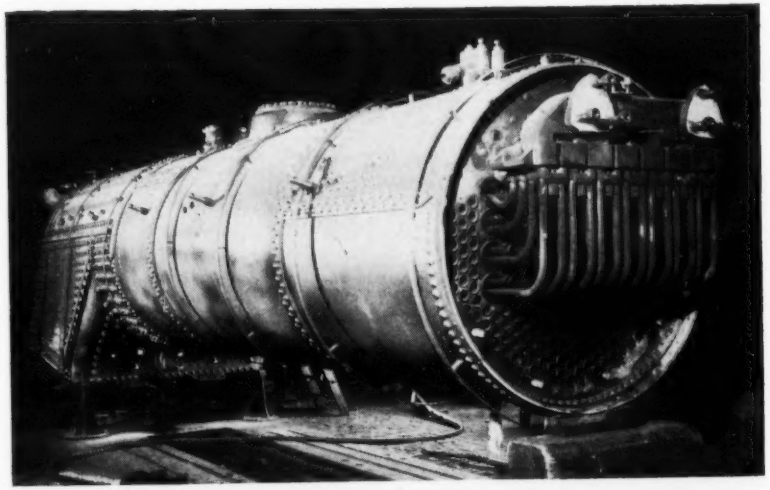
Ministry of Supply austerity locomotive tender. Side elevation, end elevation and plan partly sectional to show method of construction

Austerity 2-10-0 Type Locomotive

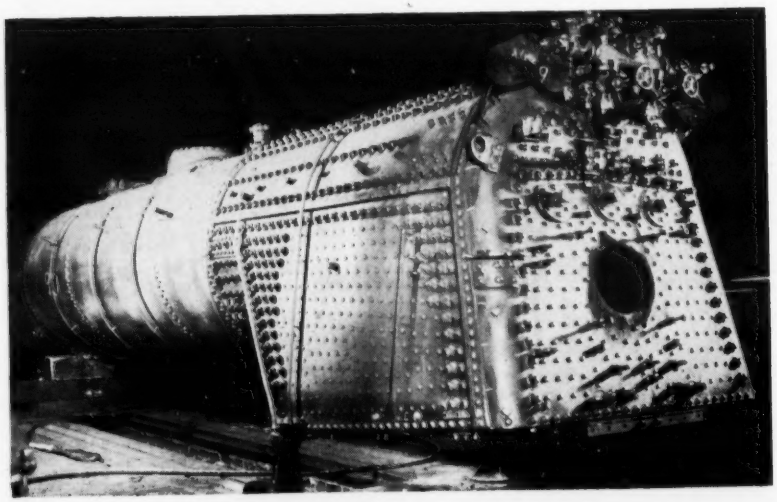
Austerity 2-10-0 Type Locomotive



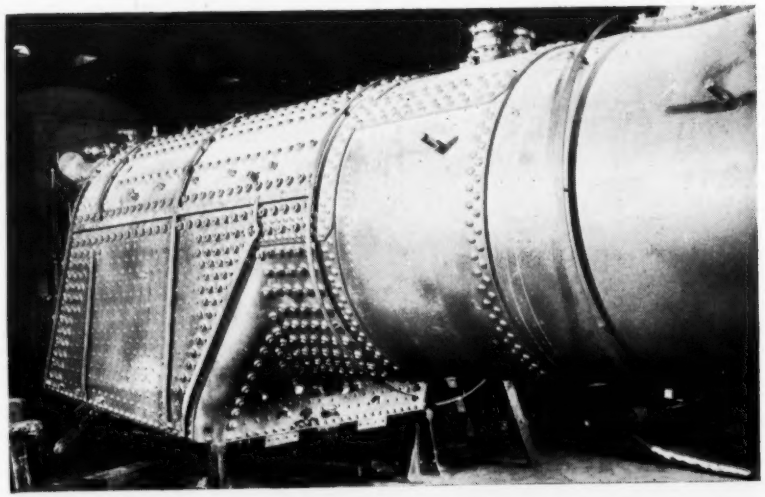
Inner firebox showing combustion chamber and tubeplate



Boiler showing superheater header and elements

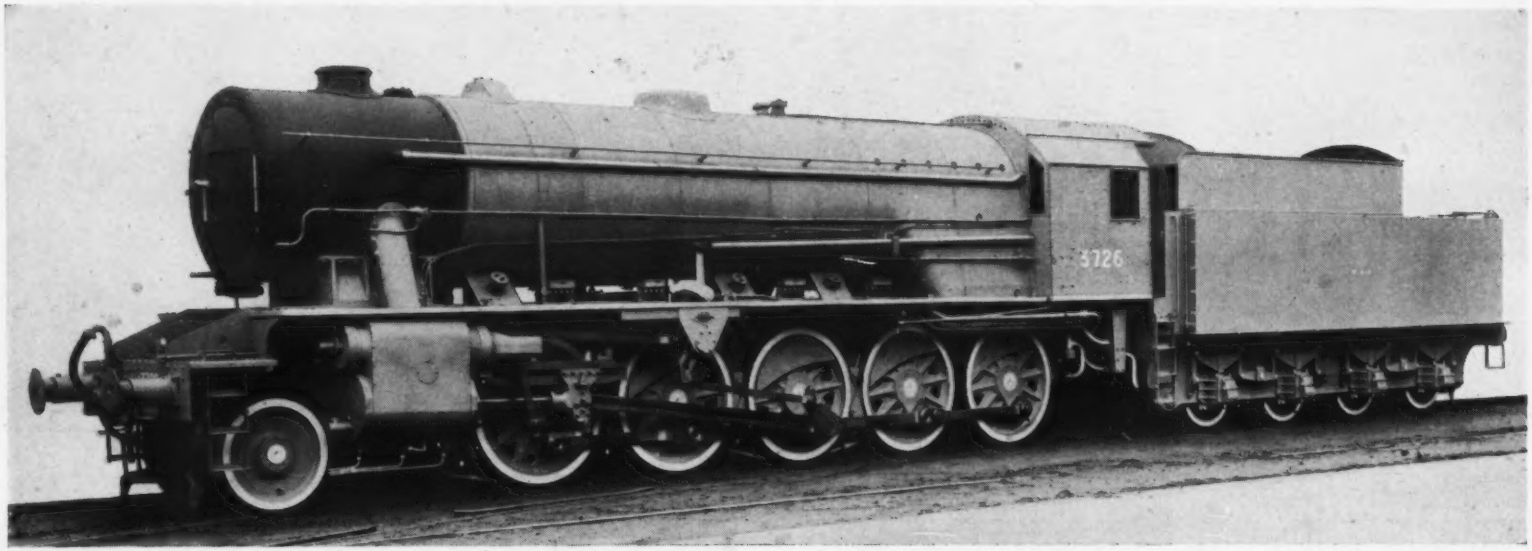


Rear view of firebox



Part view of boiler and firebox showing throatplate

Austerity 2-10-0 Type Locomotive



General view of the Ministry of Supply 2-10-0 austerity locomotive

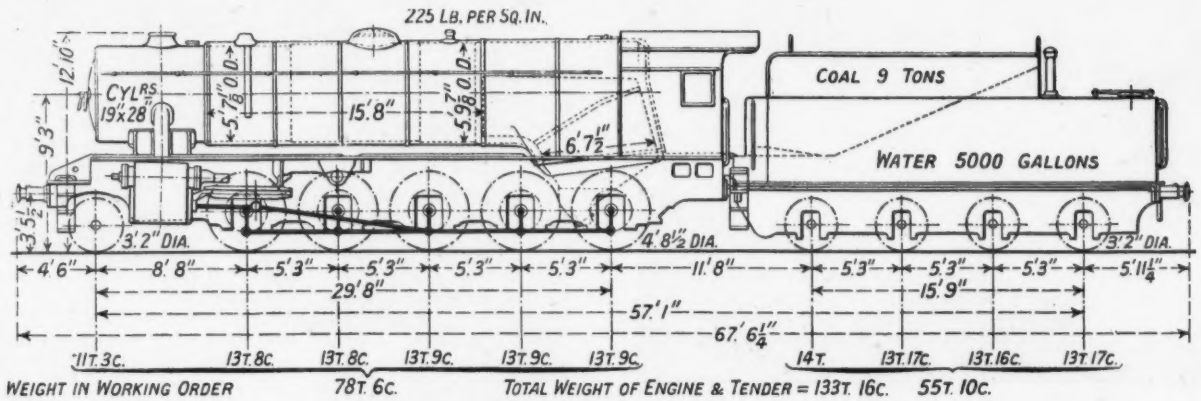


Diagram giving principal dimensions and axle loads

RAILWAY NEWS SECTION

PERSONAL

Colonel Eric Gore-Browne, who is Chairman of the Southern Railway Company, has been elected Chairman of the London committee of the Ottoman Bank, in succession to Mr. A. A. Jamieson (Chairman of Vickers Limited), who has resigned the Chairmanship and his membership of the committee.

Mr. W. J. Thomas, who, as recorded in our December 1 issue, is retiring on December 31 next from the position of Chief Docks Manager, Great Western Railway, has had shipping experience at Cardiff, where his headquarters have been situated during his tenure of that office, throughout his career. He was for many years Marine Superintendent of the Foster Hain Steamship Co. Ltd. In 1924 he joined the Great Western Railway as Engineer-Assistant to the Marine Superintendent, but two years later, when the Marine and Docks Departments were amalgamated under the control of the Chief Docks Manager, he became Chief Marine Assistant. Mr. Thomas subsequently was promoted to be Marine Manager, but in May, 1935, he was selected for the appointment of Deputy Chief Docks Manager, the position from which he was promoted to be Chief Docks Manager in December of the same year.

At the request of the board of Imperial Chemical Industries Limited, the Minister of Labour & National Service has agreed to release Mr. R. Lloyd Roberts from his appointment as Under-Secretary in the Ministry.

The Minister of Production announces that Sir Charles Hambro has relinquished his position as United Kingdom Member of the Combined Raw Materials Board & Head of the British Raw Materials Mission in Washington, on the expiry of the period for which he had agreed to assume those duties. His place on the Combined Raw Materials Board is taken by Sir Henry Self, who will combine those duties with those he already performs on the Combined Production & Resources Board. The Deputy-Member of the Combined Raw Materials Board is now Mr. George Archer, who will act also as Head of the British Raw Materials Mission. Sir Charles Hambro is Chairman of the Great Western Railway Company.

Reuters reports from Rio de Janeiro that Major N. de Alencastro Guimaraes, General Manager of the Central Railway of Brazil, has left for England to negotiate the purchase of material for further electrification of that system. Last week we announced that Major Guimaraes was shortly to visit this country to place orders for rolling stock and equipment.

We regret to record the death on December 9 of Mr. A. D. Mackenzie, Executive Director of Southdown Motor Services Limited, at the age of 74.

Mr. Leslie E. Ford, M.Inst.T., Assistant Chief Docks Manager, Great Western Railway, who, as recorded in our December 1 issue, has been appointed to succeed Mr. W. J. Thomas as Chief Docks Manager, as from January 1 next, joined the Cardiff Divisional Superintendent's Office of that railway in 1912. From 1914 to 1919 he served first with the Welch Regiment, then with the 2nd Battalion Monmouthshire Regiment, to which he was commissioned in 1915. Mr. Ford returned to the G.W.R., and held various posts from 1919 to 1921 in the Traffic Department, London Division, in the Offices of the Superintendent of the Line and the District Goods Manager, Birmingham, and at stations in that district. He was included in the first quota of "special trainees" selected in the latter year. In 1923 he was appointed Personal Clerk to Sir Felix Pole (then General Manager); in December of the same year he was transferred to the Docks Department and attached to the Chief Docks Manager's Office in charge of the New Works Section. In 1926 Mr. Ford was promoted to be Outdoor Cargo Assistant to the Docks Manager, Cardiff, and in 1928, Assistant-in-Charge, Penarth Docks. He went to Swansea as Assistant Dock Manager in 1929, and was promoted Dock Manager, Port Talbot, in 1933. In 1938 he was appointed Dock Manager, Cardiff & Penarth Docks. This position he held only for a year before returning to the Chief Docks Manager's Office as

Mr. W. J. Thomas
Chief Docks Manager, G.W.R., 1935-44

Mr. Leslie E. Ford
Appointed Chief Docks Manager, G.W.R.

Principal Assistant (subsequently re-styled Assistant Chief Docks Manager). Mr. Ford is a Brunel Medallist (University of London), and holds the rank of Major in the Home Guard.

Mr. D. Sayer, Locomotive Accountant, Southern Area, L.N.E.R., who, as recorded in our November 3 issue, has retired, started his career in the District Locomotive Superintendent's Office at Ipswich in 1896. Two years later he was transferred to the Locomotive Accountant's Office at Stratford. He was appointed Assistant Locomotive Accountant of the Great Eastern Railway in June, 1914, and after the death of the Locomotive Accountant (Mr. A. J. Snow)

Mr. D. Sayer

Locomotive Accountant, Southern Area, L.N.E.R., 1926-44

he was promoted to the full control of the office in 1921. Soon after the amalgamation he took charge of the Great Northern Section Office at Doncaster; from July 1, 1926, the responsibility for the Great Central Section Office at Gorton was added, and he became Southern Area Locomotive Accountant.

L.N.E.R. Appointments

The L.N.E.R. announces the following appointments:—

Mr. R. J. M. Inglis has been released temporarily for important Government service, and, during his absence, Mr. T. F. Cameron, Assistant General Manager (Works & General), will act as Divisional General Manager (Scottish Area).

Mr. J. Ness, Assistant Divisional General Manager (North Eastern Area), has been appointed to act temporarily as an Assistant to the Chief General Manager.

Mr. H. J. Edwards, Assistant to the Goods Manager (Southern Area), has been appointed Acting London Suburban District Goods Manager.

Mr. J. W. Barr, Acting Assistant District Superintendent, Kings Cross, has been appointed Acting Assistant Passenger Manager (Scottish Area).

Mr. S. M. Sewell, Goods Agent, Marylebone, has been appointed Acting Assistant District Goods & Dock Manager, West Hartlepool.

The governing body of the Imperial College of Science & Technology has elected Lord Falmouth to an Honorary Fellowship of the College.

Southern Railway Appointments

The Southern Railway announces the following appointments:

Traffic Department

Mr. J. S. Chitty, Chief Clerk, Nine Elms, to be Assistant Goods Agent, Nine Elms *vice* Mr. F. Smith, retiring.

Docks & Marine Department

Mr. P. W. Thatcher, Wharfinger, Southampton, to be Outdoor Superintendent, Southampton, *vice* Mr. H. L. Ferguson, retiring.

Mr. F. G. Walker, Assistant Wharfinger, Southampton, to be Wharfinger, Southampton.

Chief Accountant's Department

Mr. T. B. Holdforth, Chief Clerk, Brighton, to be Stores Accountant, Brighton, *vice* Mr. C. H. Jemmett, retired.

L.M.S.R. Appointments

The L.M.S.R. announces the following appointments:—

Mr. F. Senior, Goods Agent, Wigan, to be Goods Agent, Rochdale.

Mr. F. Midgley, Head of Section (Wages Staff), Chief Commercial & Chief Operating Managers' Office, Watford H.Q., to be Goods Agent, Camden, from January 1 next, *vice* Mr. C. Nixon, retiring.

Mr. E. Hopkins, Goods Agent, Bankfield & Canada Dock, to be Goods Agent, Birkenhead, *vice* Mr. F. E. Newman, deceased.

Mr. E. Williams, Goods Agent, Alexandra Dock, to be Goods Agent, Bankfield & Canada Dock.

Mr. E. E. Henderson, Goods Agent, Langton Dock & North Mersey, to be Goods Agent, Alexandra Dock.

Mr. W. J. Tozer, Chief Delivery Clerk, Edge Hill, to be Goods Agent, Langton Dock & North Mersey.

Mr. T. Frame, Goods Agent & Harbour Collector, Ayr, to be Goods Agent, Paisley, from January 1 next, *vice* Mr. G. Edwards, retiring.

Mr. R. Dowie, Goods Agent, Rutherglen, to be Goods Agent & Harbour Collector, Ayr, from January 1 next.

Mr. R. S. Brown Goods Agent, Whiteinch, to be Goods Agent, Rutherglen, from January 1 next.

Mr. P. Wildgoose, Goods Agent, Salford & Pendleton, to be Goods Agent, Liverpool Road, *vice* Mr. Powell, promoted.

Mr. G. H. Fieldsend, Chief Claims Clerk, D.G.M.O., Manchester, to be Goods Agent, Salford & Pendleton.

Mr. S. W. Hughes, District Goods Manager's Office, Broad Street, to be Goods Agent, Willesden, from January 1 next, *vice* Mr. G. B. Parker, retiring.

Railway Assessment Authority

Mr. Gerard R. Hill, a former Parliamentary Counsel, who was appointed to the Railway Assessment Authority by the Minister of Health as one of his direct appointees, has resigned his membership of the Authority. In his place the Minister has appointed Sir George Etherton, who, since the Authority was constituted in 1930, has been the member appointed by the Minister on the recommendation of the County Councils Association, and who recently had resigned his membership in that capacity on his retirement from the office of Clerk of the Peace and of the County Council of Lancashire. In his place as representative of the county councils the Minister has appointed, on the recommendation of the County Councils Association, Mr. W. R. Clemens, Chairman of the Middlesex County Council.

Mr. A. E. Gillies, Outdoor Assistant, Engineer's Department, Southern Area, L.N.E.R., who, as recorded in our December 1 issue, has retired, commenced his career in 1897 with the former G.E.R. at Stratford Works. Three years later he was transferred to the department of the Engineer-in-Chief and saw some service in the Divisional Engineer's Office at Stratford. He became Chief Assistant to the Divisional Engineer in 1917, and was engaged on numerous emergency works. Those included a complicated layout of

Mr. A. E. Gillies

Outdoor Assistant, Engineer's Department, Southern Area, L.N.E.R., 1931-44

points and crossings, required at short notice, near Canning Town. Mr. Gillies was entrusted with the assembly on a nearby site and the lifting, in large complete units, by crane, into the permanent position. In 1920 he was placed in charge of the Permanent Way Drawing Office at headquarters, and in 1925, on transfer to Kings Cross, was engaged again on numerous schemes, including the new marshalling yard at Whitemoor. Thereafter, apart from a brief period as Acting District Engineer, Kings Cross, in 1926, he was, until his retirement, in charge of extensive outdoor works, which included the widening of the Great Eastern Section main line from Romford to Shenfield; he was appointed Outdoor Assistant, Engineer's Department, Southern Area, in May, 1931. During the present war Mr. Gillies has been in charge of various widening works, and of repairs necessitated by enemy action.

Canadian Pacific Railway

Mr. H. J. Humphrey, Vice-President, Eastern Lines, Canadian Pacific Railway, has been assigned to special duties, primarily in connection with the solution of problems which will confront the company in the period of transition from war to peace. Mr. Humphrey is succeeded by Mr. E. D. Cotterell, General Manager, Eastern Lines, who is promoted to be Vice-President & General Manager, Eastern Lines.

TRANSPORT SERVICES AND THE WAR—272

Prisoners-of-War Trains

Since " D " Day, 724 special Prisoners-of-War trains have been run by the British railways.

Compartment Lamp Thefts

Since the restoration of train lighting, the G.W.R. has been losing compartment lamps at the rate of 200 a day.

Special Trains for Normandy Mails

An average of 100 special trains a month is being worked by the L.M.S.R. to convey letters to Allied troops on the Continent.

The Mail Train for France

A special train which has run ever since D-Day, and to the punctuality of which particular attention is given, leaves London Road L.N.E.R. Station, Nottingham, every night, and proceeds to a south-eastern port. It carries the daily mail to the British Liberation Armies in Europe, amounting normally to 6,000 mail bags. Irrespective of where letters or parcels for these troops are mailed in Great Britain, they are sent first to a large Army Post Office in Nottingham, where sorting is undertaken by A.T.S. and men of the Army Post Office.

Restaurant Car Restoration

A rumour has gained currency recently that there is a likelihood of the early restoration of restaurant cars on main-line trains, but, as we announced briefly last week, this has been denied officially. The statement of the Railway Executive Committee says that there is no truth in the suggestion that restaurant cars on main-line trains may be restored at the beginning of the new year. The present very heavy wartime traffics are likely to continue for some time, and, until these are substantially reduced, it will not be possible to restore restaurant cars.

Christmas Rail Travel

The Ministry of War Transport has issued an official statement to the effect that the Minister has given sympathetic consideration to the possibility of increasing railway passenger services during the Christmas holiday period. In view, however, of the paramount importance at this stage of the war of increasing the flow of supplies to the armies in the field, and the consequent necessity to transfer locomotives overseas, Lord Leathers, with regret, has had to decide that it is not practicable to provide a programme of additional long-distance passenger trains at Christmas.

Where trains can be withdrawn owing to the holiday, the equivalent mileage may be made up by the provision of a limited number of relief trains on other routes, but it must be emphasised that this cannot be expected to meet the requirements of all who may wish to travel. Prior information of these relief trains cannot be published, as they will be arranged only as opportunity offers.

Irish Channel Christmas Shipping

The Ministry of War Transport has announced that arrangements have been made for the passenger shipping services to Eire to be augmented temporarily as follow:—

(*a*) Liverpool—Dublin route, British & Irish Steam Packet Company, from December 15, 1944, to January 10, 1945;

(*b*) Fishguard—Waterford route, Great Western Railway, from December 16, 1944, to January 9, 1945; this will operate thrice weekly.

Rail and steamer tickets to Eire will not be issued unless the passenger (including children) is in possession of a sailing ticket, issued free of charge, which, in the case of the Liverpool route can be obtained only from the British & Irish Steam Packet Company, Royal Liver Buildings, Liverpool 3; and, in the case of the Fishguard route, only from the Superintendent of the Line (Central Inquiry Bureau), Great Western Railway, Paddington Station, W.2.

Passengers must also be in possession of the necessary " exit permit " or " leave certificate."

According to a report published in *The Irish Times*, extra vessels will be placed on the Fishguard—Waterford route from December 16, which will carry 1,200 extra passengers a day, and thus add between 7,000 and 8,000 to those persons who will be able to go home to Eire. It is understood that some 50,000 are endeavouring to make the journey, but that only about 30,000 will be successful.

Christmas Perishable Traffics

In view of the risk of delay in transit, notice has been given in Ulster by the L.M.S.R. (Heysham Steamers), the Belfast Steamship Co. Ltd., and the Belfast, Mersey & Manchester Steam Ship Co. Ltd., that consignments intended for delivery in Great Britain before Christmas must be dispatched not later than December 16, *via* Heysham or Liverpool, for all places in England and Wales, except Liverpool City; and not later than December 18 for Liverpool City. This applies to both the Belfast and Heysham, and the Belfast and Liverpool services. Single packages for conveyance by passenger train service must not exceed 1 cwt.

Christmas Travel in Ireland

The Great Northern Railway (Ireland) has issued an announcement that, in accordance with Government restrictions, no extra trains will be run for Christmas traffic. Luggage accommodation in train vans will be limited strictly, and long-distance passengers are advised to travel before December 23. Advance travel and reservation tickets are being issued from Belfast, Londonderry, and principal intermediate stations, to stations in the Dublin direction, from Wednesday, December 6, at a reservation fee of 1s. a seat, whether first, second, or third class. From the Dublin end, comparable reservation tickets are being issued (from the same date), and limited numbers are being set aside for the convenience of passengers joining specified main-line trains at Drogheda and Dundalk.

London Aircraft Production

At a meeting in London on December 5, to which we made brief reference last week (page 587), Lord Ashfield, as Chairman of the London Aircraft Production group of factories, was able to announce that the progressive improvements in the war situation, and the smaller operational losses of aircraft that fortunately have been experienced, have enabled the programme of the Ministry of Aircraft Production to be varied to an extent which will result in the work of London Aircraft Production coming to an end sometime in the spring of next year.

He took the opportunity to give more details about the activities of this group than have hitherto been available for publication, for, although some brief details of one aspect of the work were given in our issue of October 22, 1943 (page 418), the broad activities of the L.A.P. group have been regarded as secret until now. In the early days of the war plans were being made by the Government for the large-scale production of the four-engined Halifax bomber which, at that time, existed only on the drawing board, and was known only within a limited circle as " the 57." Additional factory capacity was required, and, at the instance of Sir Frederick Handley Page, the idea was developed of using existing factories connected with road transport. In this way the nucleus of an organisation, as well as factory capacity, would be provided. A group was formed under the name of London Aircraft Production, comprising the London Passenger Transport Board, Chrysler Motors Limited, Duple Bodies & Motors Limited, the Express Motor & Body Works Limited (one of the Carter Paterson group), and Park Royal Coachworks Limited.

The Halifax bomber is a machine weighing, fully laden, 28 tons. It comprises in its airframe alone 40,000 different parts. Its manufacture must be subjected to the closest check and scrutiny at every stage, and yet, for all its complexities, the machine lends itself ideally to group production, for it is designed to be built in a number of large components which can be transported and finally assembled at the aerodrome. The proposals came to a head in 1940, immediately after Dunkirk, when the Minister of Aircraft Production asked the Group to undertake the production of components for Halifax aircraft. These components were to be delivered to the Handley Page aerodrome for final erection and flight. However, the parent company's aircraft production proceeded at such a pace that, before the first L.A.P. components had been completed, other flying arrangements had to be made. In 1941, London Transport, on behalf of the L.A.P. Group, accepted responsibility for the final erection and test flight of the L.A.P. machines, for which purpose it was allotted its own aerodrome in May; 1941. The erection of the assembly sheds had only just begun and the first aeroplane was due for delivery at the end of the year; the task was a heavy one, but the buildings and runways were completed in time.

While it was the duty of London Transport to co-ordinate the work of the L.A.P. Group as a whole, each member of the Group was responsible for its own production. Co-ordination was achieved by the formation of a Group Members' Committee, under the Chairmanship of Lord Ashfield, consisting of Messrs. W. R. Black, Managing Director, Park Royal Coachworks Limited; G. F. Watts, Managing Director, Duple Bodies & Motors Limited; J. B. Osler, Managing Director, Express Motor & Body Works Limited; B. King, Chairman & Managing Director, Chrysler Motors Limited; and E. C. Ottaway and L. C. Hawkins, Joint General Managers (Aircraft), London Transport. It may be added that Mr. Hawkins undertook this work in addition to his normal post as Comptroller to London Transport.

To Chrysler went the task of building the rear fuselage, to Park Royal the outer wings, to Express the intermediate wings and tail plane, and to Duple the shell and components for the front fuselage. London Transport undertook the manufacture of the centre section, the installation of the fittings and equipment for the front fuselage, the installation of the engines, and the final erection and test flight of the complete aircraft. In all, the group comprises eight factories. With the operational success of the Halifax, the L.A.P. group was called upon to plan still larger production than that already contemplated. In addition to more space being required at every group factory, a building in course of construction as a car shed for one of the London Transport tube railway extensions was completed

as a matter of urgency, and adapted for aircraft work. More than 80 per cent. of the total factory staff had no previous engineering experience, and more than half of these were women. Within 14 months of the beginning, the first aircraft of the L.A.P. group was airborne, on the morning of December 15, 1941. Twelve months later nearly 100 bombers had gone to the Squadrons and these have been followed by hundreds more.

Bus Curfew Relaxed in Ulster

On December 4, the 10 p.m. bus curfew introduced by the Northern Ireland Road Transport Board in 1943 was relaxed. So far as possible, the normal services which operated after 10 p.m. have been restored. No extra or special buses will be run.

Questionnaire for Bus Travellers

Passengers travelling on special early morning trams and buses in Leicester on Sunday last (December 10) were handed a questionnaire on which they were asked to state the purpose of their journey. This step was taken with the object of ascertaining whether it would be possible to withdraw special Sunday morning services, and run more vehicles later in the day, now that reductions of Sunday work, the Home Guard stand-down, and the decrease of fire guard duties, have reduced essential travel on Sunday morning.

Paris-Brest Train Service

The first train since the liberation of Brest arrived in that town on December 10, according to a Paris radio statement.

Paris-Madrid Train Service

In connection with the proposal to reopen through rail communication between Paris and Madrid as from today (December 15) through Narbonne and Barcelona, it is explained by an official French statement that the operation of the normal route through Bordeaux and Irun cannot be resumed until the bridges over the Rivers Loire and Garonne have been restored.

Swiss-French Railway Service

A daily train service is now running between Paris and Neufchatel in Switzerland, according to a Swiss radio statement of December 8. The journey takes about 32 hr.; in the reverse direction, the journey to Paris takes about 30 hr. Earlier reference to attempts to re-establish railway communication between France and Switzerland was made in our November 17 issue, page 497.

Naval Construction in C.P.R. Shops

The production to Royal Navy specifications of specialised gunnery devices which were in action off Normandy on "D" Day, and which are now in constant use by the Navy, represents an achievement on the part of skilled staff and craftsmen of the Angus Locomotive & Railway Rolling Stock Shops of the Canadian Pacific Railway, which constructed and delivered the equipment to stringent standards and to schedule. The devices consist of range-finder directors, director control towers, and range transmission units; they cost from £860 to £9,700 each.

The first contract completed was for twelve rangefinder directors, for which the Admiralty had supplied working drawings to the C.P.R.; the staff concerned had never before carried out that type of work. The units were the first of their kind to be made in Canada. Urgently-needed Naval fire-control units were coming from the Angus Shops during the worst days of the Battle of the Atlantic. Later those gunnery devices were being completed without delay while other sections of the shops were building main marine engines and condensers for Royal Canadian Navy escort vessels (see also our issue of December 10, 1943); recently the fiftieth marine engine to be built in the Angus Shops was completed. Essential railway rolling stock repair and reconstruction work has been undertaken of course, at the same time.

The India-China Pipeline

Pressure on the Bengal-Assam Railway, which is handling very heavy goods traffic, has been relieved in some measure by the pipeline that is under construction from India into China, and will eventually extend for some 1,800 miles—the longest in the world. Work on this pipeline was begun last March, and already it has been completed from Calcutta to Upper Burma, crossing mountains at altitudes as great as 5,000 ft. The pipeline is supplying aircraft and motor vehicles in Upper Burma as well as many Allied airfields in Assam.

New Zealand Railways and the War

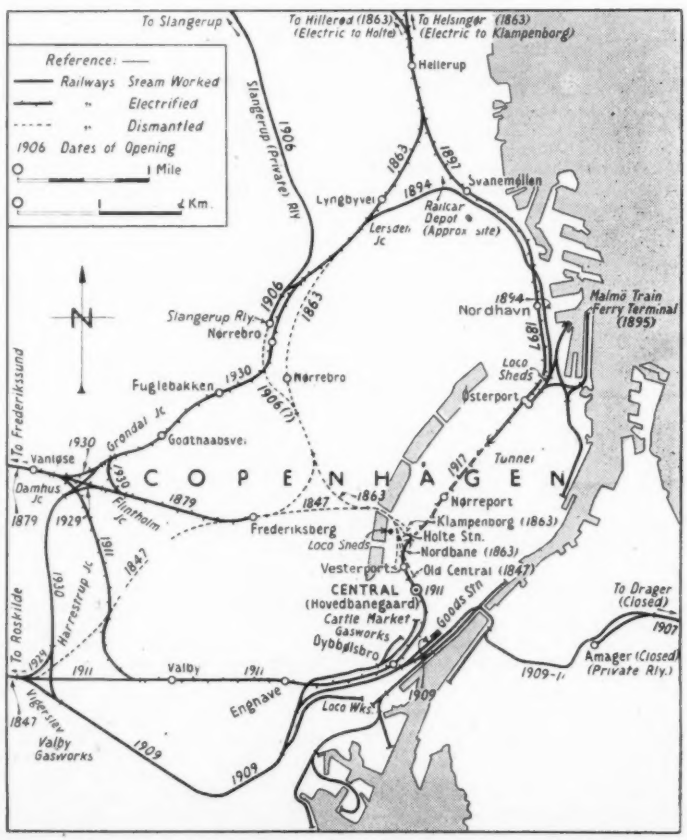
In the report on the working of the New Zealand Government Railways for the year ended June 30, 1944, it is stated that the necessity for the continued vigorous prosecution of the war still dominated the efforts of the administration. During the year under review, movements of Armed Forces personnel provided 34·09 per cent. of the total passenger revenue, while military freights provided 9·47 per cent. of the total goods revenue. This comprised the direct traffic from the war, but there was a considerable amount of indirect traffic which would cease with the cessation of hostilities. Much traffic had been diverted to rail by the curtailment of road services, the immobilisation of private cars, and the shortage of coastal shipping. Benefit had also been received in longer haulages from the centralisation of shipping. The average number of staff throughout the year was 23,422, against 22,237 in the previous year. The improved position in this respect was due mainly to the return to duty with the Department of the majority of the members of the 16th and 17th Railway Operating Companies after a fine record of service abroad. Voluntary subscriptions by railway employees to the National Patriotic Fund by deductions from their pay amounted to £24,940, and deposits in the national savings accounts by way of fortnightly instalments had reached a total of £124,859.

Indian Goods Wagon Loadings

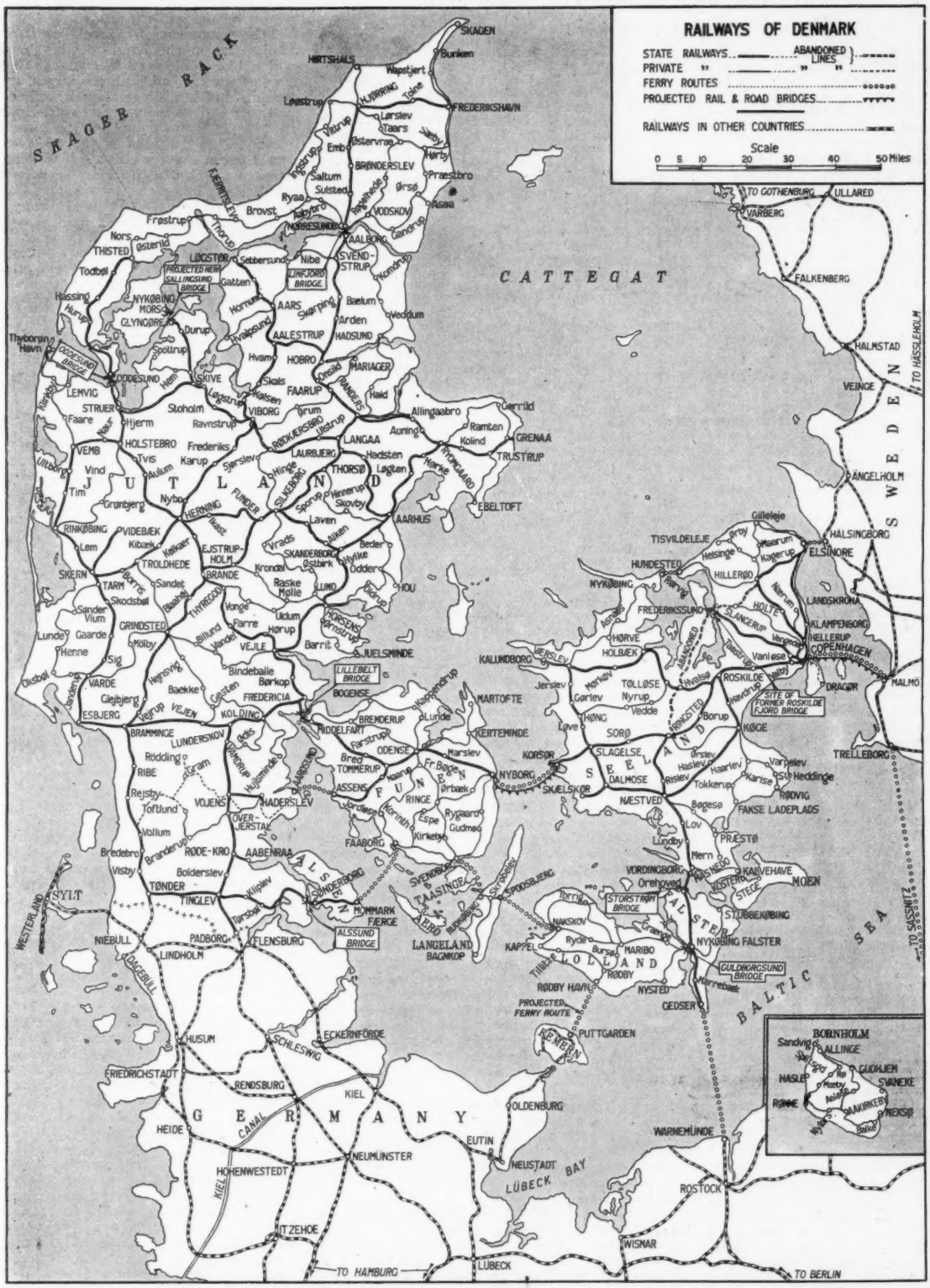
Goods wagon loadings of the Indian railways increased by 2·62 per cent. on the broad gauge, and increased by 10·6 per cent. on the metre gauge in July, compared with July, 1943. From April to July 31, 1944, goods wagon loadings were lower by 0·26 per cent. on the broad gauge, and higher by 7·70 per cent. on the metre gauge.

Augmenting Swedish Civil Aircraft Fleet

The dwindling stock of aircraft for civilian traffic available in Sweden has been augmented by five Flying Fortresses that made forced landings in Sweden, which the United States Government has loaned to the Swedish Government. The latter has assigned them to A.B. Aerotransport, and the aircraft have been rebuilt at Linköping, to provide accommodation for 14 passengers and 3 tons of cargo. It is reported that these aircraft, which have a very long range, are now in service between Sweden and Great Britain carrying air mail and passengers.



The railways of Copenhagen, showing dates of opening. See general railway map of Denmark on opposite page



The railways of Denmark and adjacent territories, showing also various lines abandoned in recent years, some of which may have been relaid to meet war conditions. A detail of Copenhagen is given opposite

Institution of Locomotive Engineers

Record attendance at annual luncheon

The annual luncheon of the Institution of Locomotive Engineers was held at the Connaught Rooms, Great Queen Street, London, W.C.2, on Friday, December 8, Mr. W. S. Graff-Baker, President of the institution was in the chair. Those present included :—

Messrs. N. Ablett ; F. W. Abraham ; W. A. Agnew ; T. J. Aldridge ; Captain L. B. Alexander ; Messrs. H. H. Andrews ; J. Clubley Armstrong ; G. Arnott ; the Rt. Hon. Lord Ashfield, P.C. ; Mr. W. J. Ash.

Mr. R. J. Baines ; Lt.-Colonel R. G. Bamford ; Messrs. T. Barty ; A. E. Beacham ; J. E. Beckett ; A. R. Bell ; M. G. Bennett ; Brigadier V. Bennett ; Commander W. T. Bird, D.S.C., R.N. (ret.) ; Messrs. H. Bissell ; J. E. Blackshaw ; P. W. Bollen ; C. J. H. Bolton ; R. C. Bond ; S. Bottams ; Sir Leslie Boyce ; Mr. A. J. Boyd ; Lt.-Colonel F. Bramley, R.E.M.E. ; Messrs. J. Briggs, G. C. Brinkworth ; D. C. Brown ; O. V. S. Bulleid ; F. Burtt.

Messrs. J. E. Calverley ; A. Campbell ; Lt.-Colonel K. Cantlie ; Messrs. A. C. Carr, V.D. ; F. W. Carr ; T. M. Carter ; J. Cave ; Colonel A. C. Chester ; Messrs. A. H. Chilton ; C. S. Cocks ; J. C. Cocks ; F. H. Colebrook ; T. F. Coleman ; Colonel G. Collingwood ; Messrs. A. F. Collins ; R. A. Combe ; N. H. Cook ; B. W. C. Cooke ; D. F. Cooper ; T. Cooper ; A. G. Corrie ; B. J. Corrie ; Lt.-Colonel C. G. Cotesworth ; Messrs. H. R. Cotterill ; H. P. R. Coveney ; Captain W. G. Cowland R.N. ; Messrs. E. S. Cox ; M. A. Crane ; Major-General Crawford, C.B. ; Messrs. T. Crompton ; H. W. Crosthwait ; J. Crozier ; G. E. Cuffe.

Messrs. A. C. Damant ; C. F. Davey ; A. S. Davidson ; A. L. B. Dawson ; Damer Dawson ; J. F. Dawson ; L. F. Day ; C. E. Dee ; C. Dennett ; S. R. Devlin ; J. P. A. Drewry ; V. H. Drewry ; R. J. Drury ; R. G. Duncan ; C. E. Dunton.

Messrs. W. S. Edwards ; B. Ellis ; F. O. Ellis ; A. J. Elmes, M.B.E.

Messrs. C. N. Fairchild ; W. D. Farrington ; C. Fawcett ; A. Ferguson ; A. L. Fielding ; R. E. Fordham ; H. C. Foster ; B. D. Fox ; Lt.-Colonel C. Francis ; Colonel W. Stuart Fraser, C.I.E., O.B.E., V.D. ; Engr.-Cdr. H. V. Gaud, R.N. (ret.) ; Messrs. H. F. S. Gedge ; R. K. Glascodine, D.S.O., M.C. ; R. T. Glascodine ; B. Goddard ; Sir G. C. Godfrey ; Mr. W. B. Goodchild ; Colonel E. Gore-Browne, D.S.O. ; Mr. J. M. Goring ; Dr. H. J. Gough, C.B., M.B.E., F.R.S. ; Messrs. W. S. Graff-Baker ; E. Graham ; R. Graham ; A. J. Grainger ; E. W. Greaves ; Captain Greenop ; Mr. T. Greenwood ; Colonel H. Gresham ; Messrs. J. H. Gresham ; S. R. Gresham ; P. D. Greville ; W. H. Grieve ; Brigadier A. W. Griffin ; Mr. H. W. Griffiths.

Messrs. J. Hadfield ; D. Haigh ; H. W. Hall ; Brigadier-General F. D. Hammond, C.B.E. D.S.O. ; Messrs. J. Hampson ; E. W. Hanslip ; F. A. Harper ; Major H. A. Harrison ; Messrs. Ronald J. Harvey ; R. F. Harvey ; C. A. F. Hastilow ; M. S. Hatchell ; C. G. Hatherly, O.B.E. ; A. Hicks ; H. Hoad ; Major R. A. Hobdey ; Messrs. W. E. Hogg ; H. Holcroft ; A. Honey ; W. G. Hornett ; W. R. Hornett ; Colonel H. J. Hosie ; Messrs. W. C. Hoskin ; F. A. Howard ; E. Earnshaw Howell ; W. H. Huggins ; H. T. Hutchings.

Mr. A. C. Ilston.

Messrs. A. N. Jackson ; P. T. Jessop ; A. W. Johnston.

Messrs. J. A. Kay ; W. Kelway-Bamber ; H. E. Kemp ; D. Kerr ; A. J. D. Kitson ; C. F. Klapper.

Messrs. E. J. Larkin ; W. H. Lawrence ; L. J. Le Clair ; H. Lelew ; N. H. P. A. Levie ; Jean Levy ; M. Lewis.

Messrs. W. H. W. Maass ; J. P. Maitland, M.B.E. ; Sir H. Osborne Mance, K.B.E., C.B., C.M.G. ; Messrs. P. L. Mardis ; R. E. Marks ; P. E. Marmion ; E. W. Marten ; F. Mason ; Comdt. H. M. E. Mathe ; Messrs. A. S. Matthews ; R. E. G. Mayhew ; R. D. Metcalfe ; T. M. Mitchell.

Messrs. G. B. F. Neele ; G. R. Nicholson ; A. W. Norman.

Messrs. E. C. Ottaway ; P. M. Otway.

Messrs. H. Packham ; B. W Palmer ; C. Parkes ; C. R. Pasley ; C. Paul ; K. R. Pearson ; J. Petter ; G. Pettigrew-Smith ; S. A. R. Phelps ; F. D. Playford ; T. Potter ; E. C. Poultney, O.B.E. ; F. S. Poulton.

Messrs. R. C. Rattray ; V. P. Rawlings ; A. Raworth ; H. W. H. Richards ; A. Richardson ; R. A. Riddles, C.B.E. ; J. L. Riordan ; G. W. P. Roberts ; E. A. Robinson, M.C. ; G. Rollason ; Lt.-Colonel H. Rudgard ; Mr. Redfern.

Messrs. H. N. Saunders, O.B.E. ; M. K. F. Saunders, M.C. ; H. B. Saxby ; E. I. Scott, M.C. ; W. J. Sedcole ; E. W. Selby ; J. Shearman ; G. H. Sheffield ; D. Sheppy ; G. S. Simmons ; W. O. Skeat ; J. G. Smith ; R. T. Smith ; J. E. Spear ; J. Spencer ; Sir Wm. A. Stanier, Kt. ; Mr. H. J. Stone ; Brigadier J. Storar, R.E.M.E. ; Messrs. K. Sunuaanaa ; M. N. Swinnerton ; S. J. Symes, O.B.E.

Messrs. J. Taylor ; W. Wentworth Taylor ; J. Terry ; F. Theakston, O.B.E. ; G. Thomas ; R. E. Thomas ; T. E. Thomas ; W. B. Thomson ; W. G. Tilling ; G. A. R. Trimming ; E. A. W. Turbett ; G. Turbett ; M. W. Tutt.

Mr. E. Uzzell.

Messrs. J. Vaughan, O.B.E. ; J. F. B. Vidal, M.C. ; J. W. Voelcker.

Captain W. J. Wakley ; Messrs. A. J. R. Walter ; A. F. Walters ; Engr.-Capt. A. E. Waters, O.B.E., R.N. ; Messrs. W. L. Watson, C.B.E. ; P. C. Watts ; A. J. Webb ; W. F. Wegener ; M. Weiss ; F. L. Welch ; Colin R. White ; H. B. White ; S. I. White ; I. Whittingham ; J. A. Wilks ; J. R. Wilks ; S. T. Wilcox ; M. Williams ; W. Cyril Williams ; H. Wilmot ; A. Gordon Wilson ; Colonel G. R. S. Wilson ; Major W. G. Wilson, C.M.G. ; Messrs. A. J. L. Winchester ; B. D. Wix ; F. R. Wix ; J. B. Woodman ; W. P. Wrathall ; J. M. D. Wrench, C.I.E. ; W. F. Wright ; F. E. Whitehouse.

Mr. H. Zetterstroem.

The President in welcoming the guests, introduced Colonel Eric Gore-Browne, D.S.O., O.B.E., Chairman of the Southern Railway Company, who proposed the toast of the Institution.

Colonel Gore-Browne's Speech

Colonel Gore-Browne said that he was told that the Institution had its origin on the railway with which he was connected, and the Institution's late President, Mr. O. V. Bulleid, who had held office for five years, was a Southern Railway man. Wherever the British armies were deployed at the present time, members of the Institution were helping in movement, and railway movement was absolutely essential in war as in peace.

During the war the membership of the Institution had reached a record number, and that in itself was a great achievement. The science with which the Institution was concerned was most important to the future of the country, and in that future the costs of coal played a very important part. He would ask members of the Institution to give their minds to the economy of running locomotives. He had been able recently to examine the cost of coal in running locomotives on the Southern Railway, both steam and electric. Constant research was necessary, and this could best be given by the Institution of Locomotive Engineers.

President's Reply

Mr. Graff-Baker said that members of the Institution noted the recommendation for economy in fuel consumption, and in his presidential address he had dealt with this matter, but he did not think that there would be unanimity as to how this should be achieved.

The health of the Institute never had been better than it was at the present time. The object of the Institution was to better the professional interests of its members in its mental, moral, and physical aspects. On the mental side the Institution provided papers for discussion, not only in London, but at centres overseas, and the *Journal* of the Institution had never failed to be published during the war. On the moral side the Institution was prepared to come to the aid of its members on any subject arising from the professional aspect. The physical side was shown by the gathering.

The management of the Institution's affairs was in the hands of the Council, which had done excellent work. At the present time it had both the largest membership and the biggest bank balance it had ever had. Five years ago Mr. Bulleid, in spite of the many calls on his time, had consented to continue in the Presidency, and to him they owed a great debt of gratitude. The Institution also was very fortunate in having as its Secretary, Major Harrison, who, besides performing the Herculean tasks associated with his office, also edited the *Journal*.

The luncheon at which he was presiding established a record. There were present 285 persons, of which 153 were guests of the Institution. It was customary for the Institution to have a considerable body of guests, and this was taken as a great compliment. He extended to them all a hearty welcome, and coupled with his good wishes the name of Mr. T. E. Thomas.

Mr. Thomas's Response

Mr. T. E. Thomas, General Manager London Passenger Transport Board, expressed his thanks for the opportunity to participate in the family gathering. In his view there were three categories of guests. In the first were those who added lustre to the table; in the second were those who could perform some material service; and in the third were those who performed lip service. There was no such thing as a guest "pure and simple"; guests were either "pure" or "simple." His first association with the Institution had been on the occasion of the recent presidential address by Mr. Graff-Baker, when he had been filled with envy to hear the President put forward highly controversial matters on an occasion when there was no discussion.

The great value of an Institution of this kind was the scope it offered for those with knowledge to impart that knowledge.

A great deal of credit was due to the designers and manufacturers of rolling stock which had stood up to five years of use, and was still running, and a great deal also was due to the maintenance men who had kept it in use. The condition of much of the rolling stock in use to-day offered an opportunity for replacement on the high standard expected of the British railways.

New Hudson River Tube.—The second tube of the Lincoln Tunnel under the Hudson River, connecting midtown Manhattan with Weehawken, New Jersey, is scheduled for opening on February 1, after considerable delay in its completion. Tunneling was begun early in 1937 and the 7,400-ft. tube was holed through May 2, 1938. The two lane first tube was opened to two-way traffic in December, 1937, but use at that time did not justify provision for four lanes of traffic. Work on the second tube was stopped shortly after the rough tunneling was completed. Traffic through the one tube has steadily increased to 4,500,000 vehicles in 1943 and an estimated 5,500,000 vehicles for 1944. Completion of the second tube was undertaken early in 1941, but work has been delayed by shortages of materials, recently alleviated by the co-operation of the U.S.A. War Production Board. Traffic for New Jersey will use the two lanes of the second tube, entering through recently-built approaches at 40th Street and Tenth Avenue. Manhattan-bound traffic will use the two lanes now carrying two-way traffic. The toll house for both lanes will be at the New Jersey end of the tubes.

Parliamentary Notes

L.M.S.R. Bills

The London Midland & Scottish Railway Bill, as amended, was considered on report by the House of Commons on December 6, and ordered to be put down for third reading.

The London Midland & Scottish Railway (Canals) Bill, as amended, was objected to, and the report stage was postponed until later.

In the House of Lords on November 29 the Chairman of Committees acquainted members that (pursuant to the resolution of November 7) the London Midland & Scottish Railway Bill and the London Midland & Scottish Railway (Canals) Bill had been deposited in the Private Bill Office, together with the declaration of the agent.

The Bills were presented and read the first time, and deemed to have passed through all their remaining stages.

Questions in Parliament

Rail Facilities to London Airport

Mr. A. C. Bossom (Maidstone—C.) on December 6 asked the Secretary of State for Air whether it had been decided to construct a new main London airport; was he satisfied that sufficient fast rail transport would be available to the selected point; and had the railway companies been consulted before the site was selected.

Sir Archibald Sinclair (Secretary of State for Air): No, sir. As Sir Waldron Smithers (Chislehurst—C.) was informed on March 22 last, the civil airports for the London area after the war in all probability will be chosen from the airfields which are being used or developed in wartime for war purposes and are capable of extension or adaptation for post-war civil needs. Fast rail access will be one of the considerations taken into account when the suitability of particular sites is under consideration.

Mr. Bossom: Has the Minister indicated that there is not going to be a new airport at Staines?

Sir A. Sinclair: No, Sir. The airfield being constructed there is being constructed for military purposes and is urgently required.

Mr. Bossom: Can the Secretary of State for Air say whether the railways were consulted, and is there to be fast railway access to the airfield?

Sir A. Sinclair: I am only concerned with the military aspect, but a fast railway access will certainly be one of the considerations to be taken into account if the suitability of it for civil aviation is under consideration.

Rail Fares for Young Persons

Mr. J. Parker (Romford—Lab.) on December 6 asked the Parliamentary Secretary, Ministry of War Transport, whether he was aware that hardship was caused to boys and girls of 16 to 17 years of age travelling to the City from outer London areas, such as Hornchurch, after workmen's trains, on account of the high fares they had to pay; and whether they could be given the same facilities as boys and girls of 14 to 15 years of age.

Mr. P. J. Noel-Baker (Parliamentary Secretary, Ministry of War Transport) stated in a written answer: Children under fourteen years of age can travel on the railways at half-fares. Young persons between fourteen and sixteen years of age can buy season tickets at half the usual rate, if their headmaster or employer certifies that they require the ticket to travel to school or work. Young persons between sixteen and eighteen years of age similarly can buy season tickets on the same terms and under the same conditions, if they receive in wages, salary or monetary allowance less than twenty-five shillings a week. I think Mr. Parker will agree that, under these arrangements, young persons should suffer no hardship.

British Overseas Airways Corporation

Mr. Austin Hopkinson (Mossley—Nat.) on December 6 asked the Secretary of State for Air, whether, in view of the fact that by far the greater part of the income of the British Overseas Airways Corporation was derived from public funds, he would lay before the House a copy of proper accounts for last year in accordance with subsection 5 of Section 22 of the British Overseas Airways Act.

Sir Archibald Sinclair: Yes, Sir. A statement of accounts and a report will be laid before the House as soon as possible.

Mr. Hopkinson: Are we to understand that a proper statement will be made this year, instead of a totally inadequate statement such as was presented in the previous year?

Sir A. Sinclair: It is very difficult to define the words "proper" and "totally inadequate." It will, however, be the best we can do, considering the difficulties imposed by security considerations.

Mr. Hopkinson: Is it a matter of security that we should not be allowed to know what are the salaries, expenses and other extravagances of some of the officials concerned? There is no means in the accounts presented for the previous year of finding out where the money goes?

Sir A. Sinclair: That is a matter which has been argued constantly in this House, which decided, in its wisdom, that management was to be left to the corporation. That responsibility is fixed on the corporation.

Disposal of Government Factories

Mr. Alfred Edwards (Middlesbrough East—Lab.) on December 6 asked the President of the Board of Trade if the Government factories offered for sale by Government were to be sold to the highest bidder; and, if not, what were to be the considerations determining sale.

Captain C. Waterhouse (Parliamentary Secretary, Board of Trade) stated in a written answer: As previously has been stated, these factories normally will not be sold outright, but will be leased to selected applicants. In either case, they will be allocated in accordance with certain criteria of national interest. These were indicated in the full statements about the disposal of Government factories made by the President of the Board of Trade on July 25 and October 20.

Export Markets (Business Contacts Facilities)

Mr. R. Morgan (Stourbridge—C.) on December 1 asked the Secretary, Overseas Trade Department, whether, as exit permits were being granted to editors of technical journals to visit liberated territories on the Continent, he would increase facilities available to representatives of industrial and commercial undertakings who had had extensive business interests in such territories in pre-war days.

Mr. H. Johnstone (Secretary, Overseas Trade Department) in a written answer stated: My department is not responsible for sponsoring applications for visits abroad made by members of the press. As I explained on October 10, in reply to Viscountess Davidson (Hemel Hempstead—C.), my department has received applications for exit permits from business men who desire to visit the interior zone in France, and is doing all that is possible to facilitate such visits. But it should be understood that visits are subject to the grant of a visa by the French authorities.

Distribution of Advertising Circulars

Sir John Mellor (Tamworth—C.) on December 6 asked the Minister of Supply whether he would remove the restriction imposed by Article 6 of the Control of Paper (No. 48) Order, 1942 (S.R. & O.1942 No. 1817) so as to permit distribution of advertising circulars, printed after November 12, 1941, and before September 14, 1942, as large quantities of these circulars still had advertising value, although they soon would become useless except for pulp.

Sir Andrew Duncan (Minister of Supply) wrote in reply: Any such advertising circulars printed after November, 1941, were printed with full knowledge that their gratuitous distribution was prohibited by the Order issued in that month, and I should not feel justified in allowing them to be distributed now.

British Exports (Publicity Expenditure)

Viscount Hinchingbrooke (South Dorset—C.) on November 30 asked the Secretary, Overseas Trade Department, what sums were spent in 1943 on publicity for British exports in Latin America, Sweden, Portugal, and Egypt, respectively, and what were the comparable figures for U.S.A. exports publicity.

Mr. H. Johnstone stated in a written answer: I regret that the figures are not available.

Steel Manufacture

Mr. W. F. Higgs (Birmingham West—C.) on December 6 asked the Minister of Supply in what way it was expected the production industries would compete in consumable goods made of steel when the cost of the raw material was so much above that of other countries.

Sir Andrew Duncan stated in a written answer: It is too early to say at what level steel prices will settle in the post-war period, either in this or in the other main producing countries, but the Government is fully alive to the importance of the prices in this country being, so far as practicable competitive.

IRON & STEEL CONTROL.—The Minister of Supply has made the Control of Iron & Steel (No. 36) Order, 1944, effective from December 8, which withdraws (i) the restrictions on the treatment, use and consumption of ingot mould scrap and tramway rails, and (ii) the obligation to segregate scrap steel containing tungsten. Copies of the Order (S.R. & O. 1944, No. 1335) may be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2, or through any bookseller, price 1d.

"TOURIST STATIONS" IN SOUTH AFRICA.—One of the latest stages in the preparations of the Union of South Africa for expected post-war tourist visitors is represented by the decision of the Railway Administration to pay special attention to stations on tourist routes. These stations are being classified as "tourist stations," and the stationmasters to be appointed will be selected with due consideration for their educational qualifications, initiative, personality, interest in tourist work, and experience in this branch of railway activity.

Notes and News

Sugar Beet Traffic on the G.W.R.—In the past two months, 211,000 tons of sugar beet have passed into factories on the G.W.R. system. This traffic has been handled by 25,000 wagons, an increase of 35 per cent. compared with 1939.

Assam Railways & Trading Co. Ltd.—Dividends of 4 per cent. on the pre-preference shares and of 3 per cent. on the new 6 per cent. preference shares are payable on January 4, 1935, in respect of the half-year ending December 31, 1944.

Deputy Director General Required.—The Iraqi State Railways require a Deputy Director General for a period of three years in the first instance. For full details of this appointment see our Official Notices on page 611.

Home Railway Dividend Dates.—The dates on which the boards of the four main-line railway companies are expected to meet to consider final dividends in respect of 1943 are :—G.W.R., February 16 ; L.M.S.R., February 7 ; L.N.E.R., February 15 ; and Southern Railway, February 15.

Transport Officer Required.—The National Farmers' Union invite applications for the position of Transport Officer. Applicants must have considerable knowledge of all forms of modern transport and the legislation applicable thereto. For full details see our Official Notices on page 611.

Seine Floods Affect Paris Metro.—As a result of the River Seine rising and overflowing its banks in the outskirts of Paris, some suburbs have been evacuated. In the city itself, the rising waters ran into the underground railway stations, and it was reported on December 5 that part of the system was out of service.

Manchester-Bolton Diversion.—A fall of earth down a 80-ft. ravine between Clifton Junction and Kearsley endangered the main L.M.S.R. line from Bolton into Manchester. At first single-line traffic was worked, but, as a result of a further subsidence, the line has been closed between Kearsley and Clifton, and a bus service is being operated between these points. Trains from Manchester to Bolton have been diverted through Bury.

Canadian National Railways.—Gross earnings for the month of October, 1944, were $37,496,000, a decrease of $89,000 in comparison with October, 1943. Operating expenses, however, increased from $28,346,000 to $32,324,000, and the net earnings of $5,172,000 were $4,067,000 lower. For the period January 1 to October 31, 1944, the aggregate gross earnings were $365,644,000, an increase of $1,110,000 in comparison with the corresponding period of 1943, but the aggregate net earnings of $66,383,000 showed a decrease of $14,974,000.

Murex Limited.—The report for the year to June 30, 1944, states that the trading profit after providing for depreciation was £412,514 (£488,990). Adding dividends, etc., £30,509, makes £443,023. Profit for the year, before provision for taxation and appropriation to reserves was £439,446 (£516,507), to which has to be added £119,597 brought forward, making £559,043. Deductions are made of £200,000 for taxation reserve, £25,000 for general reserve, £50,000 for obsolescence reserve, and £10,000 for war personnel reserve. There is a special writing-off of plant and machinery £27,075, and a writing down of investment in an associated company £5,931 ; writing-off balance of A.R.P. takes £2,489, and pension fund £11,400. The final ordinary dividend is 10 per cent., making 17½ per cent. for the year (same), and the bonus of 2½ per cent., both less tax, is repeated, leaving £125,398 to be carried forward.

L.M.S.R. New Staff Canteen.—A staff canteen, seating 200, was opened at the L.M.S.R. Motive Power Depot at Polmadie, Glasgow, on December 4, by Major Malcolm Speir, Chief Officer for Scotland, of the company. Mr. John Phillipps, Operating Manager, Scotland, presided at the ceremony.

Road Accidents in October, 1944.—The return issued by the Ministry of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of October last shows 487 deaths (compared with 488 in October, 1943), 2,694 seriously injured (compared with 2,870 in October, 1943), and 7,773 slightly injured (compared with 7,838 in October, 1943).

David Brown & Sons and Muir Machine Tools.—David Brown & Sons (Huddersfield) Ltd. has acquired control of the share capital of Muir Machine Tools Limited of Britannia Works, Manchester. The Muir plant is to be reconstructed and improved to cope with the most recent developments and urgent requirements for high-precision machines. Muirs has been established for 101 years and David Brown & Sons (Huddersfield) Ltd. has been in the industry since 1860.

P.W.I. Manchester & Liverpool Section Annual Meeting.—The annual meeting of the Manchester & Liverpool Section of the Permanent Way Institution will be held in the Large Hall, Onward Buildings, 207, Deansgate, Manchester, on December 16 at 2.30 p.m. At the conclusion of other business, which will include the election for 1945 of a chairman, vice-chairman, secretary and other officers, a lecture on " Types of Paving and Road Surfaces " will be given by Mr. E. H. Collier, of Newton Heath.

Argentine Transandine Holdings Limited.—Following on the redemption by the Argentine Government of the whole of this company's holding of £638,100 Sterling State Railway bonds of the Argentine Nation, the directors have announced that the whole of the outstanding " A " debenture stock will be redeemed at par with interest to date at the London office of the company on January 1, 1945. All the outstanding " B " stock will be redeemed at par with interest to date on July 1, 1945. Any " B " stock surrendered to the company at any date between January 1 and July 1, 1945, will be repaid at par, plus interest. The company was formed in 1939 to acquire the remaining undertaking of the Argentine Transandine Railway Co. Ltd. after sale of the railway, lands, and works to the Argentine Government.

Patent Extension Application.—Letters patent were granted to Frederick Benjamin Cornelius and the Stanton Ironworks Co. Ltd. bearing date July 4, 1928, and March 5, 1932, and numbered 316747 and 382186 respectively for inventions, each entitled " Improvements in or relating to pipe joints." On January 16, 1945, an originating summons issued out of the High Court of Justice (Chancery Division) on behalf of Frederick Benjamin Cornelius and the Stanton Ironworks Co. Ltd. asking that the term of the above-mentioned letters patent be extended for a further period of five years or for such other term as the Court shall think fit, will come before Mr. Justice Uthwatt for directions as to the hearing. Any notice of opposition must be lodged at Room 156, Royal Courts of Justice, Strand, London, and a copy of such notice served, at least eleven days before January 16 upon Messrs. Coote & Co., 112, Gresham House, Old Broad Street, E.C.2, and upon the Solicitor to the Board of Trade.

British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices Dec. 12, 1944	Prices Rise/Fall
G.W.R.				
Cons. Ord.	65¼	57¼	59¾	– ¼
5% Con. Pref. ...	120½	108	120½	– 1
5% Red. Pref. (1950)	110½	106	105	—
5% Rt. Charge ...	137½	123½	134½	—
5% Cons. Guar. ...	135½	121 7/16	132½	—
4% Deb.	118	107½	117	– 1
4½% Deb.	119	109 7/16	117½	—
4½% Deb.	124½	116	123½	—
5% Deb.	138	127	135½	—
2½% Deb.	77	72½	74½	—
L.M.S.R.				
Ord.	34 13/32	28	31¾	+ ¼
4% Pref. (1923) ...	66½	58	63	+ ½
4% Pref.	80½	73	78½	– ½
5% Red. Pref. (1955)	105¾	102	103½xd	—
4% Guar.	107	98½	105½	– 1
4% Deb.	109¾	103½	108xd	– 2½
5% Red. Deb. (1952)	111½	108	108½xd	—
L.N.E.R.				
5% Pref. Ord. ...	12 3/32	7⅞	8	—
Def. Ord.	5⅛	3⅜	4	—
4% First Pref. ...	66½	57½	62	– ½
4% Second Pref. ...	36½	30½	32½	– ½
5% Red. Pref. (1955)	99⅜	93	101	+ 1
4% First Guar. ...	102½	94	103½	– 1
4% Second Guar. ...	93½	85⅜	94	– ½
3% Deb.	86⅜	78⅜	86 xd	– 1½
4% Deb.	109 7/16	101⅜	108 xd	– 1½
5% Red. Deb. (1947)	106½	102	102½	—
4½% Sinking Fund Red. Deb.	108	103½	104½xd	– 1
SOUTHERN				
Pref. Ord.	80	72½	77½	—
Def. Ord.	26¾	20¾	25¾	+ ¼
5% Pref.	119½	106⅝	119½	– 1
5% Red. Pref. (1964)	114	108½	115½	+ 1
5% Guar. Pref. ...	136	122	132½	—
5% Red. Guar. Pref. (1957)	117	109¾	114½	—
4% Deb.	117½	106	115½xd	– 1½
5% Deb.	137	126	132½xd	– 1½
4% Red. Deb. (1962-67)	112	106½	108½xd	– 1
4% Red. Deb. (1970-80)	112	107	109½xd	– 1
FORTH BRIDGE				
4% Deb.	109	104⅝	106	—
4% Guar.	105	102½	104½	—
L.P.T.B.				
4½% "A"	125 11/16	114	121½	– 1
5% "A"	133 3/16	123	131½	—
3% Guar. (1967-72)...	100½	97	99	—
5% "B"	124	114	122½	– 1
"C"	72	53	69	—
MERSEY				
Ord.	34½	27	34½	—
3% Perp. Pref. ...	68	59½	70	—
4% Perp. Deb. ...	104	102½	107	—
3% Perp. Deb. ...	83	78½	84	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	8	—
G. NORTHERN				
Ord.	24½	16	33⅜	+ 2½
Pref.	—	—	48	—
Guar....	—	—	69½	+ 3½
Deb.	—	—	88½	+ 1½
G. SOUTHERN				
Ord.	30	9½	66	– 2
Pref.	30	11	65½	– 1
Guar.	64	26½	79½	– 1½
Deb.	88⅛	51⅛	99½	+ 7/16

*Latest available quotation

OFFICIAL NOTICES

Canadian National Railway Company

WELLINGTON GREY & BRUCE RAILWAY COMPANY 7 PER CENT. BONDS.

NOTICE IS HEREBY GIVEN that the estimated earnings of the Wellington Grey & Bruce Railway Company for the half-year ending 31st December, 1944, applicable to meet outstanding interest on the above Bonds redeemed up to and including 1st January, 1942, will admit of the payment of £6 17s. 1d. per £100 Bond, and that this payment will be applied, as follows, viz. :—19s. 9d., balance due for Coupon No. 131 due 1st January, 1936, £3 10s. 0d. full payment of Coupon No. 132, due 1st July, 1936, £2 7s. 4d. on account of Coupon No. 133 due 1st January, 1937, and will be made on and after 1st January, 1945, at the offices of the Canadian National Railway Company, Orient House, 42-45, New Broad Street, London, E.C.2, England.

The coupons must be left three clear days for examination.

A. H. CONEYBEARE,
European Secretary and Treasurer.

London, 11th December, 1944.

DEPUTY DIRECTOR GENERAL required by the Iraqi State Railways for 3 years in the first instance. Salary between I.D.170 and I.D.190 a month, according to qualifications and experience, plus high cost of living allowance, at present I.D.24 a month (I.D.1 = £1). The appointment is not pensionable, but there is a Provident Fund. Free passages. Candidates must have had considerable administrative experience on a railway and preferably be civil or mechanical engineers. Previous tropical experience is desirable.

Applicants should write, quoting E.1235A, to the Ministry of Labour and National Service, Central (T. and S.) Register, Room 5/17, Sardinia Street, Kingsway, London, W.C.2, for the necessary forms, which should be returned completed on or before 19th December, 1944.

Transport

THE National Farmers' Union invite applications for the position of Transport Officer. Applicants must have considerable knowledge and experience of all forms of modern transport and the legislation applicable thereto. The vacant post will carry a salary of £750 per annum. A brief outline of the duties involved can be had on application to the General Secretary, 45, Bedford Square, London, W.C.1, to whom applications endorsed "Transport" must be sent by the 16th December, 1944.

Beyer Peacock & Co. Ltd.—The directors have decided to pay another year's interest arrears on the 5½ per cent. cumulative preference shares. This brings payments on these shares up to June 30, 1940. The previous payment was for the year to June 30, 1939, made last June. Payment was made last January of a year's arrears to June 30, 1938.

Red Cross Exhibition Coach.—A Red Cross & St. John Ambulance exhibition coach, lent by the L.M.S.R., was opened at Victoria Station, Manchester, on December 10 by the Lord Mayor of Manchester (Alderman W. P. Jackson). It was open to the public without charge until December 14. It is now to go on tour to sixty of the leading cities and towns of England and Wales.

Coal Working under Railway.—The House of Lords on December 8 allowed the appeal by the London & North Eastern Railway Company from the decision of the Court of Appeal which had reversed a decision of Mr. Justice Morton in the matter of B.A. Collieries Limited v. L.N.E.R. It concerned a summons taken out by the colliery company relating to the construction of Section 15 of the Mines (Working Facilities & Support) Act, 1923. The colliery company had given notice to the railway company of its intention to work coal lying in an "area of protection" which comprised certain railway works. Later, the railway company served a counter-notice specifying the minerals required to be left unworked and the particular portion of the railway and works for the support of which the specified minerals were required to be left unworked. This counter-notice had the effect of sterilising the coal comprised in the area of protection and of preventing the colliery company from working it, and made the railway company liable to pay compensation for such prevention. Section 79A(i) of the Act provides that "if a mine owner works any minerals lying under any part of the area of protection in the manner authorised by this Act, he shall nevertheless become liable . . . . to contribute towards the expenses properly incurred . . . by the company in making good any damage caused by such working to the railway or works of the company (not being protected works comprised in any counter-notice relating to such area of protection) . . . ." The question at issue was whether in assessing the compensation payable by the railway company under the counter-notice, account should be taken of the possible contribution under Section 79A for which the colliery might in the future become liable. Mr. Justice Morton answered the question in the affirmative and the House of Lords has, by a majority, decided that he was right.

Contracts and Tenders

Below is a list of the orders placed recently by the Egyptian State Railways :—

J. Stone & Co., Ltd. : Cable.
Morgan Crucible Co. Ltd. : Brushes, carbon.
Plessey Co. Ltd. : Dry electrolytic condensers.
Railway Signal Co. Ltd. : Signalling material.
Chance Bros. & Co. Ltd. : Glass.
Westinghouse Brake & Signal Co. Ltd. : Signalling material.

A Brazilian mission is to visit England to negotiate the purchase of railway equipment (see also page 603).

A recent broadcast from Ankara, quoted by Reuters, stated that a trade delegation representing the Turkish State Railways was on its way to Great Britain to purchase locomotives and rolling stock. Another Turkish delegation is at present in the U.S.A. purchasing industrial equipment of various types.

Forthcoming Meetings

December 30 (*Sat.*).—Permanent Way Institution (London Section), 39, Victoria Street, S.W.1, 3 p.m., lantern lecture on "The Effects of Track Maintenance and Alignments on Structure and Other Clearances," by Mr. H. J. Bussell.

Standard L.N.E.R. Station Nameboards

The permissible reintroduction of adequate station signs is making it possible for the L.N.E.R. to introduce improved standard designs of nameboards. We reproduce two views showing (left) a pre-war sign at Shenfield, and (right) a new experimental type recently erected at Finsbury Park, both of which embody white Gill Sans letters on a blue background

Railway Stock Market

Business in stock markets has shown further contraction with the approach of holiday influences, although the tendency generally was firm. British Funds regained an earlier fractional decline, and good features were not lacking among industrial shares. Home railway stocks failed to hold all of an earlier rally, but there was little selling reported, and the slight reaction in various prior charges and senior preference stocks was attributed mainly to reduced demand due to inactive markets. Yields on the junior stocks continue in sharp contrast to the small return on many leading industrial shares. Consequently, it seems likely that when markets become more active there will be scope for improving prices, particularly as in the early part of the new year the dividends may very well tend to emphasise the generous yield basis of the junior stocks. It continues generally to be expected that dividends will be the same as for 1943, and that there are good prospects of the control agreement continuing for some time. There is, however, a growing belief that the result of the next General Election will have an important bearing on the future of the railways and the outlook for industry generally. Indeed, it still appears that the outlook for the railways is no more difficult to assess than that of many other important industries, and that all points considered, a 6 per cent. yield basis for the junior stocks would not be unreasonable. The current yield basis averaging nearly 8 per cent. suggests fears that the railways and their stockholders may be treated unfairly in the eventual post-war settlement; but it would appear that market sentiment is affected not so much by the facts of the position as by the many occasions in the past when the reasonable hopes of stockholders have been disappointed. Yield on Great Western ordinary is still 7½ per cent., that on L.M.S.R. 7⅞ per cent., and Southern deferred returns 7¾ per cent. and L.N.E.R. second preference as much as 8⅜ per cent. The large yield on the latter reflects the possibility of a small reduction in dividend if there were contraction in ancillary and other income not included in the fixed rental. Nevertheless, the general belief is that the 2¾ per cent. rate is likely to be maintained. This stock, however, may have speculative possibilities, because if after all, there were developments to permit L.N.E.R. deferred and preferred receiving a distribution, the second preference would presumably have to receive its full 4 per cent. Yields on preference shares generally are attractive; that on L.M.S.R. 1923 preference is nearly 6⅜ per cent., and higher up the investment list come the guaranteed stocks which also give quite attractive returns, and among front-rank investments, yields of over 3⅜ per cent. rule on Great Western and Southern 4 per cent. debentures.

Argentine railway stocks showed a rally, and were higher on balance, although best prices were not held. The rise embraced ordinary and preference stocks, but was most marked by debentures; the latter, of course, would be the first to benefit if the latest developments with the Argentine authorities bring improved earnings for the railways. The annual reports that have so far come to hand, emphasise the unfair basis under which the railways have to run services so vital to the prosperity of the Argentine. Apart from the steep upward curve of operating costs arising from prices of supplies and materials, there is the effect of exchange losses and differences. The statements of Sir Montague Eddy at the forthcoming B.A. Gt. Southern and B.A. Western meetings are being awaited with considerable interest. Apart from references to the true significance of the results of the mission to the Argentine, the market is awaiting news as to the proposed increase in the board of each of the two last-named companies by the addition of five new directors.

Compared with a week ago Great Western ordinary was unchanged at 60; but the 5 per cent. preference moved back from 121½ to 120. Southern 5 per cent. preference was a point down at 119½; the preferred at 77½ showed a fractional decline; the deferred at 25⅞ was slightly better on balance. L.M.S.R. ordinary was 31⅞, compared with 31½ a week ago, but L.N.E.R. second preference eased to 32½. Reflecting the improvement in Argentine railway stocks, B.A. Gt. Southern 4 per cent. debentures rose further from 62¾ to 64, Central Argentine 5 per cents from 62 to 64 and B.A. Western 4 per cents from 56½ to 57½. Central Uruguay issues, however, reacted sharply on the results.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ending	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1942/3	No. of Weeks	Aggregate traffics to date: Totals 1943/4	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Increase or decrease	Shares or stock	Prices: Highest 1943	Prices: Lowest 1943	Prices: December 12, 1944	Prices: Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	3.12.44	31,830	— 1,020	48	1,406,400	1,393,890	+ 12,510	Ord. Stk.	15½	10	11½	Nil
	Argentine North Eastern ...	753	2.12.44	17,454	+ 1,716	22	376,278	322,818	+ 53,460	,,	7⅜	5	6	Nil
	Bolivar	174	Nov., 1944	4,797	— 346	47	58,052	57,956	+ 96	6 p.c. Deb.	22½	18	7½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	23½	19	18½	Nil
	Buenos Ayres & Pacific ...	2,773	2.12.44	132,600	+ 29,700	22	2,613,360	2,100,600	+ 512,760	Ord. Stk.	8½	5½	6	Nil
	Buenos Ayres Great Southern	5,080	2.12.44	206,040	— 2,820	22	3,750,180	3,528,300	+ 221,880	Ord. Stk.	17⅛	9½	13	Nil
	Buenos Ayres Western ...	1,924	2.12.44	69,180	+ 11,520	22	1,447,320	1,157,580	+ 289,740	,,	16	9⅜	11½	Nil
	Central Argentine	3,700	2.12.44	163,506	+ 1,374	22	3,707,739	3,114,858	+ 592,881	,,	10¾	6½	9	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4⅞	3	5	Nil
	Cent. Uruguay of M. Video	972	2.12.44	36,412	— 2,591	22	690,398	737,645	— 47,247	Ord. Stk.	7⅜	4½	4½	Nil
	Costa Rica	262	Oct., 1944	23,612	+ 1,153	17	97,913	94,493	+ 3,420	Stk.	16	12⅜	17½	Nil
	Dorada	70	Oct., 1944	28,028	+ 6,228	43	265,443	218,607	+ 46,836	1 Mt. Deb.	96	92	100½	£5 19/5
	Entre Rios	808	2.12.44	20,616	— 756	22	493,104	450,306	+ 42,798	Ord. Stk.	9	5½	5½	Nil
	Great Western of Brazil ...	1,030	2.12.44	33,000	+ 9,100	48	1,066,200	814,600	+ 251,600	Ord. Sh.	59/9	24/4½	30/-	Nil
	International of Cl. Amer. ...	794	Oct., 1944	$481,040	— $30,526	43	$6,280,959	$6,023,847	+ $257,112	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	2¾	1½	1	Nil
	La Guaira & Caracas... ...	22¾	Nov., 1944	5,377	— 2,168	47	83,595	90,905	— 7,310	5 p.c. Deb.	90	80	79½	£6 5/9
	Leopoldina	1,918	2.12.44	48,475	+ 7,202	48	2,241,955	1,717,924	+ 524,031	Ord. Stk.	7¾	4	4½	Nil
	Mexican	483	30.11.44	ps. 620,400	—ps.109,800	21	ps.10,358,000	ps. 8,819,500	+ ps. 1,538,500	Ord. Stk.	1⅛	¾	⅝	Nil
	Midland Uruguay	319	Oct., 1944	15,163	— 2,780	17	66,489	65,867	+ 622	—	—	—	—	—
	Nitrate	382	30.11.44	7,728	— 1,869	48	168,884	147,068	+ 21,816	Ord. Sh.	83/9	71/3	70/-	£3 11 5
	Paraguay Central	274	1.12.44	G$60,484	+ G$5,856	22	G$1,287,549	G$1,195,498	+ G$92,051	Pr. Li. Stk.	75	51½	78½	£7/12/10
	Peruvian Corporation ...	1,059	Nov., 1944	127,973	+ 23,344	21	636,125	521,655	+ 114,470	Pref.	17⅜	10¾	10	Nil
	Salvador	100	Oct., 1944	c 76,000	+ c 9,000	17	c 323,000	c 335,000	— c 12,000	—	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	71	57	54	£3 14/1
	Taltal	156	Oct., 1944	2,495	— 2,850	17	10,735	22,250	— 11,515	Ord. Sh.	37/6	20/-	15/-	Nil
	United of Havana	1,301	2.12.44	53,379	+ 12,501	22	1,035,274	1,054,584	— 19,310	Ord. Stk.	¾	3½	3	Nil
	Uruguay Northern	73	Oct., 1944	1,464	+ 18	17	5,663	5,556	+ 107	—	—	—	—	—
Canada	Canadian Pacific	17,018	30.11.44	1,683,400	— 132,400	47	58,655,800	53,965,000	+ 4,690,800	Ord. Stk.	18	13⅜	14½	6¼
India†	Barsi Light	202	Sep., 1944	20,820	+ 3,322	26	140,130	127,485	+ 12,645	Ord. Stk.	—	—	128½	£3 10/1
	Bengal-Nagpur	3,267	Sept., 1944	1,001,475	— 53,850	26	6,337,125	6,208,500	+ 128,625	Ord. Stk.	104½	101½	—	—
	Madras & Southern Mahratta	2,939	Mar., 1944	358,125	— 7,925	52	10,447,866	8,913,924	+ 1,533,924	—	—	—	—	—
	South Indian	2,349	20.12.43	199,410	+ 24,449	37	5,321,558	4,562,445	+ 750,113	—	—	—	—	—
Various	Egyptian Delta	607	10.11.44	21,062	+ 527	32	416,539	335,056	+ 81,483	Prf. Sh.	6⅛	2¾	4½	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	45	32	61½	Nil
	Midland of W. Australia ...	277	Oct., 1944	22,023	— 11,975	17	82,970	135,690	— 52,720	Inc. Deb.	101	93	98½xd	£4/1/3
	Nigerian	1,900	30.9.44	286,839	— 39,236	4	—	—	—	—	—	—	—	—
	South Africa	13,301	21.10.44	947,848	+ 119,612	29	25,686,960	24,121,178	+ 1,565,782	—	—	—	—	—
	Victoria	4,774	April, 1944	1,188,999	— 212,162	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ⅛. Argentine traffics are given in sterling calculated @ 16⅜ pesos to the £

† Receipts are calculated @ 1s. 6d. to the rupee